

# The Immune System and Nutritional Supplementation

By Dr. Brian Smith

We can help prevent disease with a basic understanding of the immune system and how vitamins and minerals are required for normal immune function. We can also help the body heal itself when we do have a problem, using nutritional supplementation, including herbal remedies.

The immune system defends the body from invasion by foreign organisms (bacteria, viruses, etc.) and from abnormal cells as found in cancer. The complex organization of the cellular and chemical components allows flexibility or response so that the body is not limited to only one possible pathway in response to an infection or other health problem. The cellular components include white blood cells (WBCs) which can be further categorized into macrophages/granulocytes and lymphocytes.

Macrophages and granulocytes are the "scouts" of the immune system, they locate and destroy foreign invaders by absorbing them and then digesting them. This digestion is accomplished with hydrogen peroxides, chlorine, enzymes and possibly vitamin C. The scouts then take parts of the digested invader and "display" them on their cell surface so other parts of the immune system can recognize them and become activated. They also release a chemical called interleukin-1, to call for help from the lymphocytes.

The lymphocytes are usually broadly classified as either T-lymphocytes or B-lymphocytes. T-lymphocytes are further broken down into helper/inducer T-lymphocytes, called T-4 cells or CD4 cells (CD stands for Cluster Designation); suppressor T-lymphocytes, called T-8 cells or CD8 cells; memory T-cells which "store" information for future use; and cytotoxic cells which attack cancerous tumors and are responsible for elimination of cells infected with viruses. The T-4 lymphocytes "help" by secreting chemicals called "cytokines" that stimulate growth of T- and B-lymphocytes and that call other cells into action. In addition, T-lymphocytes which have been activated will secrete cytokines that cause the B-lymphocytes to mature into plasma cells which make and secrete antibodies. T-8 lymphocytes "suppress" the immune response, hence their name. However this is only one part of their function. They also help to prevent viral infection of T-4 cells, as found in HIV infection. They have many other, as yet, poorly understood actions as well.

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The main function of the B-lymphocytes is to produce antibodies or immunoglobulins. These react with the cell surface of an invader rendering it unable to infect a human cell or making it more susceptible to absorption and digestion by the macrophages and granulocytes.

All of these actions require vitamins and minerals. The family of B vitamins is required for antibody formation, normal thymus gland function and normal lymphocyte response. Vitamin C is needed for cytokine production and T-lymphocyte formation. Vitamin A helps to maintain normal levels of the enzymes needed to digest invaders. The minerals selenium, zinc, copper, calcium, magnesium, and iodine operate as co-factors in the multitude of chemical reactions required for normal immune function. Water is needed to keep your lymph fluid flowing through the lymph channels easily.

When you do have a health problem you can use different herbs to help stimulate and boost the immune system and immune response. Supplements can be used individually or in combination as needed.

For specific direction, see a health care practitioner with knowledge in nutritional supplementation.

*Dr. Brian Smith is a doctor of Chiropractic in private practice for 9 years, specializing in the care of immune suppressed patients.*

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# SPORTS Medicine

**How to  
Reduce the Pain  
and Maintain  
the Gain**

**Chris  
Cormier**



**DOMS**, delayed onset muscle soreness, that sometimes crippling after effect of strenuous exercise, may be controlled through use of ascorbic acid (vitamin C) supplementation according to some recent research appearing in the journal *PAIN* [50(3): 317-321 (1992)]. First studied in 1902, DOMS has been an area of active research with emphasis on the mechanism of soreness rather than the prevention or attenuation of it. Sporadic reports on the possible effect of ascorbic acid on DOMS have appeared in other research journals. In 1952 research showed an increased ability to perform subsequent sets of sit-ups in subjects taking ascorbic acid during and after the initial sets. DOMS reduction was reported again in 1966 in the *British Medical Journal*.

DOMS is thought to be caused by inflammation in the area of microtrauma to the muscles and tendons that occurs with exercise. The eccentric, or lengthening, component of an exercise causes the majority of microtrauma. For example in a bench press, the lowering of the barbell is the eccentric portion, that is, the pectoralis major and triceps muscles are getting longer. The concentric, or contracting, portion is the lifting of the barbell.

Why not eliminate the eccentric portion? Research has shown muscle growth is a function of the eccentric portion of exercise. The eccentric movement actually breaks muscle cells and connective tissue cells. It is the repair and strengthening of these broken cells that cause muscle growth. These ruptured cells are what cause the body to respond by bringing fluids to the area resulting in inflammation. This swelling in the muscle is one of the factors responsible for pain sensations. Some of the chemicals liberated by the ruptured cells cause direct stimulation of the pain nerve fibers. For this reason, the use of anti-inflammatory agents, such as aspirin, has had mixed results.

Western States Chiropractic College in Portland, Oregon studied the effect of ascorbic acid on DOMS in 19 healthy subjects. Excluded from the study were people with current musculoskeletal ailments in the legs, participants in rigorous athletic training, those on anti-inflammatory agents during the trials, those taking

Photo by: Jim Amentler

**Dr. Brian A. Smith, D.C.**

Evaluation consisted of self-reporting using a scale to grade the amount of soreness in four different ways: 1) self administered thumb pressure into the



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NEWSLETTER #3

Dear Members:

We've settled into our new address in the heart of West Hollywood, and while we're still ironing out a few kinks, we feel comfortable here and hope you feel likewise. We have really enjoyed getting to know many of you, and especially thank those of you who have sent letters acknowledging our efforts.

~~We have gotten our greeting cards featuring The Far Side by Gary Larson. All~~

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Dr. Brian Smith, a nutritionist expert and doctor of Chiropractic, has been kind enough to assist us at the NPBC in providing a general vitamin protocol that he has found to be effective in treating people with immune suppression. While we encourage you strongly to see Dr. Smith or a nutritionist of your choice to work out the exact regimen best suited to your particular needs including proper dosages, the following will provide a helpful guide to those of you without funds to seek professional, specialized nutritional guidance.

Many people ask me "What vitamins should I take?" To that I answer, "It depends!" What is your diet like? What is your current health status? What other medications are you taking? Do you have allergies? Nutritional protocol is as individual as an individual is. A proper approach includes diet analysis and modification coupled with specific laboratory profiles in addition to nutritional supplementation. Consistent monitoring of the patient's weight, blood pressure, and percent of body fat are all a necessary part of nutritional care.

In this limited space, I can only highlight those supplements which are especially vital in restoring health that has been challenged by a debilitated immune system. I must implore the reader NOT to infer that, because a supplement is not discussed, it is not important.

The "B" vitamins, specifically B-6, B-5, B-12, B-2, and folic acid are important for proper antibody response. Deficiencies of one or more result in diminished antibody production to the point where no antibodies are formed at all. In addition, the B-group is of vital importance in the formation and function of red blood cells (RBC's), an aspect of immunity often overlooked. One of the functions of the RBC's is they adhere to antigen-antibody complexes and facilitate the absorption of these complexes by white blood cells (WBC's).

Vitamin C (ascorbic acid), is utilized when WBC's engulf bacteria, viruses and cellular debris. Macrophages, a type of WBC, combine Vitamin C with other substances to help kill ingested bacteria. Interferon levels seem to be influenced by Vitamin C levels, as is the thymus gland which produces T-lymphocytes.

Vitamin A deficiency is associated with a decrease in circulating lymphocytes, a lowered resistance to viruses and decreased thymus gland and spleen weights. Bacteriocidal and viricidal enzymes in WBC's are reduced in Vitamin A deficiency. What about Beta-Carotene? This has the advantage over Vitamin A because it does not depend on the liver for metabolism thereby avoiding potential toxic levels of Vitamin A and excessive stress in that organ.

Vitamin E, the tocopherols, are very important to proper immune functioning. Animal studies using mega-doses of Vitamin E resulted in up to 300% improvement in antibodies. This vitamin is involved in T-lymphocyte stimulation of B-lymphocytes. Selenium is involved synergistically with Vitamin E in immune function and stimulates antibody production. WBC's cannot produce their bacteriocidal effects without it.

Zinc deficiency results in atrophy of the thymus, spleen, lymph nodes and intestinal lymphoid tissue with resultant depletion of T and B lymphocytes and a reduction of antibody production. Excess zinc impairs the white blood cells ability to move and engulf microbes. There is an inverse relationship between zinc and iron and zinc and copper. As zinc intake increases, iron and copper absorption decreases.

L-lysine is an amino acid used in the suppression of herpes infections virus infections. It may also help in the suppression of CMV infections. It also helps to counter the effects another amino acid, L-arginine, which encourages herpes virus and Epstein-Barr virus infections.

Some newer, less researched but very promising supplements include: Co-enzyme Q-10, organic germanium, garlic, shitake mushrooms, spirulina, Pau D'arco, echinacea, acidophilus and Oriental herbs. All of them have been used in dealing with immune suppression and/or opportunistic infections to encouraging results.

The above is a partial list of the multitude of available nutrients. It is important to reiterate that a personally designed protocol is the optimum route to go. (Dr. Brian Smith is currently maintaining a practice in Hollywood and is available if you desire further consultation. His telephone number is (213) 850-5821.

## **CHOOSING A DOCTOR**

There are so many decisions facing PWA's, that it sometimes seems difficult to decide what one's priorities are. Choosing a doctor and the type of treatment that is best for you has got to be at the top of the list. This is a very vulnerable time and therefore the time when we must be as level-headed as possible. Unfortunately, there is no magic solution to AIDS and therefore we must get involved in our own treatment.

What does one look for in choosing a doctor? First of all, find a doctor who is familiar and comfortable with AIDS and is currently treating others. Ask him questions about AZT, A1-721, Dextran Sulfate, the difference between chemotherapy treatments, experimental protocols, etc. If he has no idea, then bring literature in on the particular subject you're interested in. If he doesn't have the time or desire to familiarize himself with the material, then as far as I'm concerned it's two strikes against him and time to go doctor shopping. I recently spoke to someone whose T-cell counts plummeted from 850 to 250 in three months, and when he asked his doctor what he should do, the doctor responded that he was fine (because he was asymptomatic) and that as soon as his counts went below 200 he would put him on AZT. Until then, there was nothing he should do. Another doctor told his patient that since he already had pneumocystis and survived, he was safe because you could only catch it once. Yikes!! Do these sound like the kind of health "professionals" you want steering the course of your life? There is always something that can be done, and if a doctor tells you otherwise, find someone who believes differently. A doctor with AIDS experience will have an easier time of identifying unusual symptoms that he has seen in another patient and therefore be more likely to arrest the onset of an illness before it has a chance to do any damage.

Secondly, find a doctor who takes only tests that are necessary for your particular situation, and is willing to take the time to explain what it all means. How many of you have tests taken regularly and know nothing more than what your T-cell count is? A lot of you, I'm sure. The first two times I went to UCLA I took blood tests without asking what they were for. I received a bill for almost \$1500 and never found out the results of those tests nor was I given any medical treatment. I finally told the doctor that I would be happy to take any test he felt was warranted in my particular case, but I would not be used as a research animal to collect data for future generations to learn from. He agreed and from that point on, I was subjected to minimal tests and minimal bills. No one wants to be uncooperative but this is not a time to run for Miss Congenialty; our lives are on the line and we have a right to know about our treatment. Get involved in your health!

If possible, find a doctor who has hope in your ability to get well. My friend told me a story about the day he was diagnosed. His doctor asked him if he had life insurance, and urged him to take as many vacations as soon as possible. I know he meant no harm but my friend left the office feeling hopeless. My acupuncturist, on the other hand, has absolute faith in our ability to get me well. Believe me, it makes a world of difference to be in a supportive, confident atmosphere. Don't be intimidated by a doctor or make unreasonable demands of him. We're all brought up to believe that they are gods, but they put their Levi's on one leg at a time just like the rest of us mortals. Remember, it's your life at stake, your money being spent and therefore, your right and obligation to be involved in getting the best possible care and attention you can. Choose your doctor as if your life depends on it. It just might.

## THRUSH: WHAT IT IS AND HOW TO TREAT IT

by DR. BRIAN SMITH

Thrush is a fungal infection of the mucous membranes of the oral cavity and is also known as oral candidiasis. The causative agent is usually *candida albicans*, however, other members of the *candida* family can be the cause. About one third of the population has *c. albicans* as a normal oral flora resident, but an overabundance of it leads to clinical signs and symptoms. The most common oral appearance is that of white, slightly raised patches resembling milk curds which, when removed, expose a reddened area that may bleed. These areas may be on the tongue, the insides of the cheek or the back of the throat. The mouth appears to be dry and is accompanied by general mouth discomfort. Fissures or cracks at the corners of the mouth are also seen. A less common manifestation is that of irregular or widespread reddened areas and the surface of the tongue may look abnormal.

Besides the oral cavity, *candida* can also affect the throat (esophagitis) and is characterized by pain behind the sternum (breastbone) and discomfort when eating. Intestinal candidiasis is another manifestation which usually demonstrates no overt symptoms, but is a major source for invasion of the bloodstream in the immune suppressed community. Perianal overgrowth may occur and produce severe itching. The nailbeds may become infected causing paronychia. Intertrigo involves infection in the armpit, groin, under the breast or in other warm, moist areas. Both male and female reproductive organs may be affected, vulvovaginitis in the female, characterized by a thick white discharge and itching; balanitis in the male, characterized by penile erosions and pustules (blisters).

Oral candidiasis does not appear to be related to infections at other sites, except for esophagitis. Whether it is contagious or not has not been clearly established and, to be on the safe side, should be treated as if it is. A systemic candidiasis results from blood-borne spread of *candida*. Three specific "target organs" are the eyes, kidneys and skin. Others include bone, especially the vertebra, joints, brain, heart, liver, spleen and thyroid. Antibiotic use increases the occurrence of thrush by suppressing the normal oral bacterial flora and thus making more carbohydrate substrate (food) available for *candida* overgrowth. (*Candida* is a fungus and is not affected by antibiotics).

The most common drug used for treatment is nystatin, and may be in the form of tablets of "troches" which are large pills that dissolve on the tongue. More recently ketoconazole has attained widespread use. Other drugs include clotrimazole, crystal violet and amphotericin B. Hydrogen peroxide - saline mouth rinses (3% hydrogen peroxide diluted with equal parts warm saline/salt water) are helpful.

Dietary changes can be useful especially during an acute condition. Limiting the amount of simple sugars, as found in candy, cakes and most other sweets, restricts the available "food" for the fungus. It is also prudent to limit foods containing yeast such as most breads, beer and wine. Since yeast can grow in cartons or glass bottles, it is preferable to avoid products packaged that way, especially fruit juices. Fresh or frozen juices are perfectly safe. Food supplementation would include high dosages of Vitamin C, zinc, pantothenic acid, Vitamin B-6 and a balanced formula of normal body flora like Jarro-Dophilus. Copper is also a known anti-fungal agent and may be beneficial if applied in solution however, treatment of this type must be monitored as excess copper is deleterious to optimum health. The trace mineral organic germanium is also being touted as a remedy and is considered to be non-toxic.

And last, but not least, is the herbal approach. Of the sources consulted, the most commonly used herbs, in descending order are fenugreek, golden seal, pau d'arco, myrrh, comfrey, slippery elm, thyme, echinacea, baptista, watercress, propolis and goldthread. They can be used in tea or capsule form. I hope this brief synopsis has helped you to understand more about thrush and its treatment, since it is a common manifestation in those with an impaired immune system.

(Dr. Brian Smith is a Doctor of Chiropractic, having graduated from L.A. College of Chiropractic cum laude. He is currently a service provider with the L.A. Center for Living. He now maintains a private practice in Hollywood specializing in nutritional therapeutics and neuromuscular disorders. Dr. Smith is available for individual consultation at (213) 850-5821).

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# DMG AND THE IMMUNE RESPONSE

by Dr. Brian Smith

*(The purpose of this article is to provide information only and should not be construed as a recommendation of a course of action. Please consult with a qualified health professional before making any decisions regarding your treatment).*

DMG is an amino acid that is predominantly found in grains. It is a member of the family of nutrients that include choline, betaine (trimethylglycine), sarcosine (methylglycine) and glycine. This family of compounds supplies the body with an essential biochemical group (a methyl group) that allows conversions of substances in the body's intricate biochemical pathways.

Several years ago a substance called vitamin B-15 was making news in nutrition circles. Also called pangamic acid or calcium pangamate, this substance was eventually determined not to be a vitamin and ordered off the market by the FDA. DMG is a chemical analog of this vitamin, that is to say, though not chemically identical, it has a similar chemical action. In fact, it is part pangamic acid, the other part being gluconic acid. Gluconic acid is involved in the metabolism of a simple sugar, glucose.

Two research projects have been completed studying the relationship of DMG to immune functions. The immune system is a complex network of white blood cells and molecular compounds such as antibodies and interferon. Antibodies are proteins that react with specific antigens (germs) and interferon is an antiviral, antitumor compound produced by T cells. There are several types of interferon: alpha, beta and gamma being the three most known.

The immune system has three main types of lymphocytes. T cells that identify and reject foreign matter, B cells that produce antibodies and K cells that attack tumors directly. Immune response is affected by many factors including diet, age, digestive ability, drugs and other infections such as a candida infection.

The first research project, done at the Medical University of South Carolina yielded the following results. Using 120 mg. DMG for eight weeks resulted in an average of a four-fold increase in antibody production in-

vivo (in the body, not a test tube) when exposed to pneumovax-SSS and a significant increase when exposed to streptokinase-streptodornase antigen. A third antigen, concanavalin A showed little difference in the control and DMG treated groups response. This antibody response, or humoral response, is accomplished by the B-lymphocytes. A second part of this project demonstrated the T-lymphocyte response. In normal subjects the T cell activity was increased by more than 50%. Even more important was the fact that subjects with a less than normal lymphocyte activity, in this case due to sickle cell anemia or diabetes, there was two- to-three-fold increase in lymphocyte response. As these patients are more susceptible to infections, DMG may be an especially important nutrient.

A second study at Clemson University showed similar results. The antibody production to typhoid and influenza antigen in rabbits increased three to five-fold. T cell populations were also increased. Further, the study demonstrated a doubling of the interferon production of T cells.

## **For our purposes, the immune enhancing effect is of particular importance.**

Other effects of DMG have been studied for over thirty years. The earliest interest in this nutrient stems from its effect on athletes. In 1965 it was established that DMG increases the oxygen utilization within the cell. This alone will increase the amount of exercise one can perform. It also is useful for people travelling to higher elevations. Research at USC School of Medicine in 1979 showed that the amount of lactic acid buildup in muscles after exercise is decreased with the use of DMG. Lactic acid is thought to be one of the factors in muscular soreness after exercise.

Blood sugar levels are increased by using DMG. DMG causes the adrenal glands to secrete more corticosteroids which increase blood sugar levels, as well as affect protein and fat metabolism. It has been found to enhance liver function and to lower cholesterol levels by increasing synthesis and secretion of bile. Some skin conditions, including

psoriasis and eczema, have benefitted from DMG supplementation. It also acts as an antioxidant preventing the actions of free radicals which may damage the cells to the immune system.

For our purposes, the immune enhancing effect is of particular importance. The dosages used were 120 mg. per day. Doses the equivalent of 130g. (130,000 mg.) have been shown to be safe with no side effects. Tablets are available in varying dosages from 50 to 125 mg. Daily intake should be at least 100 mg. for immune stimulatory effects. In my experience, the tablets are more effective when allowed to dissolve under the tongue. When swallowed the "first stop" is the liver where a large percentage will be used up. Recently a stabilized liquid form has become available which is more pleasant for some. The cost of this nutrient is nominal, approximately \$20.00 - \$40.00 for a monthly supply depending on the amount taken.

*(Dr. Smith is a chiropractor who utilizes nutrition extensively in his practice. He can be reached at 213.275.9309 and is available for private consultation).*

# BETA-CAROTENE AND THE IMMUNE RESPONSE

by Dr. Brian Smith

*(The purpose of this article is to provide information only and should not be construed as a recommendation of a course of action.)*

Beta-carotene is a member of the carotenoid family which form part of the coloring pigments of many yellow and green vegetables especially carrots, squash, sweet potatoes, broccoli, spinach, and beet greens. Beta-carotene is most known as a precursor to vitamin A.

For a long time it was thought that any effects of beta-carotene were through its vitamin A activity solely. While this is partially true, it is not the complete story. Beta-carotene is a potent anti-oxidant. It "captures" free oxygen found in the body thereby decreasing the chance of "free radical" damage by the oxygen. During the initial response to infection neutrophils use free radicals and reactive oxygen as a weapon against invaders. Overproduction of these weapons leads to damage of the membranes and DNA of all cells in the vicinity, including the white blood cells. Beta-carotene is able to absorb this free oxygen and prevent it from damaging the body's own tissues. Beta-carotene also exerts an anti-tumor effect by two mechanisms. First, macrophages and natural killer cells, capable of recognizing and killing tumor cells, have both been found to be more active when members of the carotenoid family, including beta-carotene, were used. Second, tumor necrosis factor, a substance which directly kills tumor cells, is produced in greater quantities in the presence of carotenoids. Beta-carotene also appears to decrease allergic responses by interfering with the formation of potent inflammatory agents.

Vitamin A has many varied immunological functions. Deficiencies have been shown to lower immunity including lymphocyte activation, lysozyme and complement levels, impaired secretory IgA production, and T-cell dependent antibody responses. Vitamin A enhances resistance to infection by increasing phagocytic cell migration, lymphocyte proliferation and it enhances responsiveness to antigenic stimuli.

More recent research has indicated that beta-carotene has several immune enhancing properties that are independent of the effects of vitamin A conversion. T and B lymphocyte responses were consistently enhanced in one study. Another demonstrated "significantly increased" in-vivo fre-

quency of OKT4+ (helper/inducer T-4 lymphocytes) and OKT3+ (all T lymphocytes) after two weeks of beta-carotene supplementation. The frequency of OKT8+ (suppressor/cytotoxic T-8 lymphocytes) was unaffected. Much of this research studied the effects of other members of the carotenoids also, specifically alpha-carotene, canthaxanthin and astaxanthin and found similar responses. As these other carotenoids have virtually no vitamin A activity (with the exception of alpha-carotene which has a very weak conversion ability), it demonstrates that the immune responses were in fact due to the carotenoids rather than vitamin A. Over 20 research papers spanning six decades were presented at the "Biological Actions of Carotenoids" symposium of the 72<sup>nd</sup> annual meeting of the Federation of American Societies for Experimental Biology in May 1988.

Beta-carotene requires the presence of bile salts and digested fats for absorption in the small intestine. Deficiencies may result from excessive mineral oil ingestion, gall bladder dysfunction or removal, and malabsorption syndromes. A cytomegalovirus (CMV) infection of the gall bladder or liver would compromise the availability of bile salts and there are a multitude of digestive problems in HIV+ individuals that can result in a malabsorption syndrome. Additionally, specific enzyme deficiencies will affect the ability to absorb beta-carotene. These deficiencies may be the result of dietary habits and are correctable.

To achieve the levels of intake approximate to those used in the aforementioned studies, one would have to ingest about 55 raw carrots or 35 boiled sweet potatoes per day! Most products measure the amount of beta-carotene by vitamin activity stating "25,000 units beta-carotene" which refers to the conversion of beta-carotene to vitamin A. In other words, if all the beta-carotene was converted to vitamin A, there would be 25,000 I.U.'s of vitamin A. Beta-carotene is superior to vitamin A as a way to benefit from the immune enhancing properties of both. Beta-carotene will be transformed into vitamin A as long as the body needs more vitamin A. When there is enough, no more is made. This is very important as vitamin A supplements may cause problems. Excess amounts of vitamin A must be metabolized by the liver. As many HIV+ individuals are taking medications which must be cleared by the liver, we do not wish to add to this burden

with excess vitamin A. Beta-carotene will prevent episodes of vitamin toxicity and will enhance the immune function by its own functions.

*(Dr. Smith is a chiropractor who utilizes nutrition extensively in his practice. He can be reached at 213.275.9309 and is available for private consultation.)*

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# VITAMIN C AND THE IMMUNE RESPONSE

by Dr. Brian Smith

*(The purpose of this article is to provide information only and should not be construed as a recommendation of a course of action.)*

Is there really any benefit to "popping" vitamin C pills like candy? Nobel prize winner Dr. Linus Pauling claimed amazing results with Vitamin C and the common cold. Subsequent double-blind research appeared to refute his claims. What happened? The double-blind study changed two variables, not only the one claimed by the researchers involved. The second variable was found to have a profound effect. If the participants did not know they were taking Vitamin C (an established double-blind protocol) they responded differently from a group of people who did know they were taking Vitamin C. In our research for knowledge we must not discount the power and ability of our mind to assist us when it has all the facts. On to Vitamin C.

Dr. Don Dickenson, in his book *How to Fortify Your Immune System* (1984) states "Vitamin C occupies a very important position in immune system functions. When human volunteers are fed at least 1,000 milligrams of Vitamin C per day, their antibodies and complement proteins are seen to increase. Experimental animals survive induced influenza virus infections with greater success if they are treated with Vitamin C before they are inoculated. Guinea pigs which are kept Vitamin C deficient have decreased T-lymphocyte numbers, but if they are given excess Vitamin C the T-lymphocyte numbers are increased. Vitamin C is utilized when white blood cells engulf bacteria, viruses and cellular debris and supplementation of Vitamin C improves the ability of white blood cells to increase the speed with which they get to infected areas. Macrophages combine hydrogen peroxide with ascorbic acid (Vitamin C), metal ions, and lysozyme to kill ingested bacteria. Recent information suggests that Vitamin C influences the ability of different body cells (skin, lung) to effect a substantial production of the antiviral agent, interferon. The thymus gland also requires Vitamin C for its optimum activity in producing T-lymphocytes. Experimental animals kept in a Vitamin C deficient state experience decreases in their ability to detoxify drugs and foreign chemicals on the order of 50 to 65 per cent. Vitamin C also inhibits the conver-

sion of many chemicals to cancer-causing substances, particularly the nitrates and nitrites used as food preservatives in processed meats (ham, bacon, cold cuts, etc.)" Thoroughly researched, Dr. Dickenson's book has documentation for each and every statement.

In addition to the above, Vitamin C helps protect the body against smog and radiation, it aids in the metabolism of some amino acids and also protects many vitamins, especially E, and minerals from oxidation.

The importance of Vitamin C can be demonstrated by the existence of two physiologic pumps. Pump #1 concentrates Vitamin C in the brain to a level 100 times that of the blood. Pump #2 concentrates the level within nerve cells to 100 times that of the brain, 10,000 times that of the blood!

What dosages are "correct" for the individual? Depending on the individual, doses may vary from 500 mg. or less, to as high as 100,000 mg. per day in very unusual cases. What of safety? In the *Annals of the New York Academy of Sciences*, Jerry Rivers, then of Cornell University, reviewed the existing literature and concluded that "the practice of ingesting large quantities of ascorbic acid will not result in calcium-oxalate stones, increased uric acid excretion .. in healthy individuals".

In many people, diarrhea is a consequence of Vitamin C supplementation. This was thought to mark the upper limits of Vitamin C absorption abilities. With HIV+ individuals a different view must be appreciated. Infection of the GI tract with cryptosporidium or microsporidium is a very real possibility. Ingestion of Vitamin C at even low dose levels of 1000 mg. or less may cause enough irritation to the inflamed GI tract as to bring about diarrhea. A buffered form of Vitamin C may help to address this problem. Above and beyond that, we must not ignore the possibility that the Vitamin C is killing the invading organism, as it has been shown to do with certain pathogens, and the body is responding by attempting to "flush" the debris out.

A pure form of Vitamin C (L-ascorbic acid), with bioflavonoids, is preferred. No artificial flavoring or preservatives, sweetening ingredients or coloring agents are needed.

Timed-release or sustained-release may be tolerated better by a minority of individuals, but the efficacy of both is questionable, especially with the increased costs. Usually up to 80% of either is released in the first hour, yielding similar blood levels as found in other supplements. A mineral ascorbate is available that is a "buffered" form of Vitamin C and may help prevent GI disturbances. These are good but attention must be paid to the amount of minerals in the formula. The best appears to be potassium ascorbate. Large doses of calcium ascorbate can interfere with other minerals, notably magnesium, in the body with detrimental effects. Lastly, there is an IV infusion form of sodium ascorbate available and this may be done through a doctor's office. The efficacy of this method is questionable in that Vitamin C must be taken in by the body at least twice a day, if not more, to maintain blood and storage amounts at optimum levels.

How much to take? Starting with 1000 mg. per day should not yield any unpleasant side effects in the majority. In the event it does, the form used may have to be switched to a buffered form or ascorbate crystals that dissolve in water. Also, more frequent, but lower doses may help. Do not be afraid to increase your amount. I personally have taken 50,000 mg. per day when I had the flu with no side effects and the flu was gone within 18 hours. When I am in a healthy state, this same amount would probably cause a bout with diarrhea. As the stress on your body increases, so does your requirement. Smoking one cigarette destroys over 100 mg. of Vitamin C. Each person is different and so are their requirements. A simple lingual (tongue) test using a blue dye can quickly assess your ascorbate levels in your tissues, much more reliable than serum levels. Unfortunately few doctors or nutritionists use this easy tool to keep track of patient requirements.

As can be seen, Vitamin C has many varied functions in the body, especially in the immune system. Supplementation is a practical, safe and cost-effective way to promote these functions.

*(Dr. Smith is a chiropractor who has studied nutrition extensively. He can be reached at 213.275.9309 for private consultation).*

# ALTERNATIVE APPROACHES: CHINESE HERBS

by Brian A. Smith, D.C.

(Jin Lin Wang, C.A., M.D., from China, has been utilizing chinese herbs and acupuncture to treat ARC and AIDS. The following information has been obtained from a research paper written by Dr. Wang.)

The main focus of this article is how Chinese herbs are being used to strengthen immunity and inhibit or kill viruses. Chinese herbs have been used in China for 3500 years of recorded history to treat the whole spectrum of disease, during which time their use has been refined by success, lack of success, trial and error. In recent years, the beneficial effects of Chinese herbal therapy have been validated by modern medical testing procedures. We designed herbal formulas based on the results of these tests and positive results with herbs in my 30 year hospital practice in China. Three Chinese herbs comprise the basis of Formula I which was used by all patients in this study. These herbs, selected to strengthen immunity, are discussed herein.

The herb **ACTINIDA CHINENSIS PLANCH** has been shown to increase T4 cell function and phagocyte activity in a study by Zhong Juming. Mice given Actinida Chinensis Planch showed Rosette formation (Rosette formation is a measure of white cell activity and immune response) and phagocyte activity more than doubled in comparison with the control group.

The herb **CORDYCEPS SINENSIS** has been widely used in China for more than 600 years. It is used, especially by the elderly, to promote general good health. A study in 1985 demonstrated that this herb can strengthen the immune competence of mice; the test group's Rosette formation increased to double the control group's reading.

The herb **RX ASTRAGALI** is used for a variety of effects including an increase in T-cell function by increasing PHA induced lymphocyte transformation and Rosette formation. It has also been shown to increase phagocytosis and natural killer cell activity.

We believe that the combination of these herbs may strengthen the immune system as evidenced by the increase in measure of the T-4 cell count and T-cell ration which doubled over a period of three months of use.

Herbs are a standard treatment in China for viral infections including influenza, her-

pes zoster, mumps and hepatitis. A substantial body of Western medical research has demonstrated the effectiveness of herbs as anti-viral formula, which was also used by all patients in the study. The two main herbs in Formula I are discussed below.

The herb **ACANTHOPANAX SENTICOSUS HARMS** has been shown to induce interferon levels three to five times higher than regular methods and maintains the high level longer than usual.

The herb **FOLIUM ISATIDIS** was first used in China to treat mumps 30 years ago. Recent lab tests have shown that it can inhibit Encephalitis B virus, Influenza B virus and Parotitis virus. Nine of the patients in the markedly effective group have recently had negative P-24 results which may demonstrate that the herbs can limit HIV activity.

## ACUPUNCTURE:

This therapeutic method has been used in China for more than 3,000 years but only recently has been explained in terms of modern medical concepts, and only recently have we come to understand the mechanisms by which acupuncture works. Acupuncture can be used to treat pain because stimulation of the appropriate acupuncture points causes the release of the opioid peptides which result in pain relief. This is why acupuncture is successfully used to treat pain. Mathews, et al. demonstrated in 1983 that Beta-Endorphine and Met Enkephalin can enhance natural killer cell activity. Cheng Bao Hua's research indicated that Met Enkephalin can increase PHA induced lymphocyte transformation threefold. Research by Japanese and Chinese scientists has shown that acupuncture can induce interferon.

## CHINESE MEDICAL DIAGNOSIS AND CLASSIFICATION OF ARC/AIDS

The standards of this article are set by diagnostic methods of Western medical science including lab tests and biopsy. Traditional Chinese medicine, however, has a unique diagnostic system dependent on symptoms and signs which make it particularly suited to treat the myriad of manifestations of ARC/AIDS. The D.O.M. asks the patient about symptoms, makes observations about the skin, tongue color and coat, and feels 27 different pulses to make a

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## CHINESE HERBS

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diagnosis of superficial or internal, heat or cold, excess or deficiency, and/or yin/yang imbalance. This is a simplified explanation of a diagnostic procedure which is too complex to explain fully in this short article. The diagnosis is used to select acupuncture points and herbs to rebalance the body of the patient and restore health.

Of 47 patients reviewed, Dr. Wang used acupuncture once or twice a week depending on the patient's T4 count. If the T4 count is lower than 350, two treatments per week are used; over 350 resulted in one treatment per week. Dr. Wang designed a number of herbal formulas to address the different needs of patients for bacterial infections, herpes, candida, etc. Results of this treatment were categorized as follows: Markedly effective: T4 count and T-cell ratio both improved and symptoms gone or alleviated. This group included 24 ARC patients (51.1%). (2) Improved: T4 or T-cell ratio improved and symptoms gone or lessened in degree. This group included 16 ARC patients and 5 AIDS patients with Kaposi's Sarcoma (44.6%). (3) Ineffective: T4 and T-cell ratio deteriorated and/or symptoms worsened. This group included 2 ARC patients (4.3%). Dr. Wong, in his summary, states that acupuncture and chinese herbs can strengthen immune competence.

(Dr. Wang is a certified acupuncturist and holds a Chinese M.D. degree. His clinic, the Oriental Medical Center, can be reached at 213.392.4099. Dr. Smith is a chiropractor and nutritionist currently practicing in Hollywood. He can be reached at 213.850.5821.) ▼



# CHIROPRACTIC THERAPY AND THE IMMUNE SYSTEM

by Dr. Brian A. Smith, D.C.

*(The purpose of this article is to provide information only and should not be construed as a recommendation of a course of action.)*

After writing several articles regarding nutrition and the immune system, a patient shared this interest in nutrition but wondered about my thoughts on chiropractic adjustive therapy and its affect on the immune system. Being sure of myself, I answered, the nervous system undoubtedly plays an important role in immune function and since chiropractic adjustive therapy affects the nervous system, it must be beneficial. After all, the "first" chiropractic patient did not have back pain. He had a loss of hearing which was restored via chiropractic adjustments. After this discussion I decided to do further research on this topic.

## THE NERVOUS SYSTEM AND THE IMMUNE SYSTEM

Over 60 years ago a chiropractic text stated that immunity was dependent upon the perfect transmission of mental impulses over the nervous system. "Science" scoffed at the idea of a connection between the nervous and immune systems for decades and, in an about-face, has recently claimed to discover that, indeed, such a connection exists. This connection has, in fact, been known to exist for thousands of years; it is not a new discovery to many in the traditional (sometimes referred to as alternative) healing arts.

The theory of chiropractic states that a disrelationship, a chiropractic subluxation, of a spinal vertebra will cause an increase in pressure on the nerve root passing from the spinal cord to the periphery. This pressure will cause a decrease in the function of this nerve which will be reflected in the functioning of all the tissues it innervates: muscle, skin, organs, etc. Further, any information relayed to the spinal cord or brain from the periphery over this nerve may well experience interference too. Research performed at the University of Colorado in Boulder has verified that there is enough pressure increase on the nerve root from a chiropractic subluxation to cause aberrant nerve function.

## IDENTIFYING THE CONNECTIONS

The connections between the nervous and immune systems are becoming more clearly identified. Certain types of T-lymphocytes have receptors for messengers of the nervous system called neuropeptides. One, substance P, has been shown to cause proliferation of T Lymphocytes, as well as having

varied effects on other white blood cells. Made in the nerve cell, up to 90% of substance P is released to the periphery in response to noxious mechanical, thermal or chemical stimuli. Lymphocytes contain receptors for other neuropeptides such as somatostatin, vasoactive intestinal peptide and endorphins. Beta-endorphin appears to stimulate the immune response while alpha-endorphin and vasoactive intestinal peptide inhibit it. There is further evidence that some white blood cells are capable of secreting neuropeptides that they have stored or made. These include substance P, endorphins, enkephalins, vasoactive intestinal peptide and adrenocorticotrophic hormone. This sets up a "feedback" system by which the immune system "informs" the nervous stem of current conditions.

It has been demonstrated that a portion of the nervous system, the sympathetic nervous system, directly innervates the thymus, spleen, lymph nodes, bone marrow and intestinal lymphoid tissue. Some nerve fibers terminate among groups of lymphocytes or precursor cells in the bone marrow. The somatosympathetic hypothesis states, in part, that a spinal fixation, or chiropractic subluxation, will alter sensory input to the nervous system. This may result in an overactive sympathetic nervous system at that level. This increased activity causes a release, from these nerve cells, of "catecholamine", which in high concentrations will suppress the immune response by inhibiting T-lymphocytes.

## BENEFITS OF CHIROPRACTIC CARE

Psychoimmunity and the Healing Process states "Chiropractic alignment of the body... is important in cases of AIDS and immune dysfunction. Adjustment...allows for clear flows of energy along the neurological pathways which help stimulate the immune system." These "flows of energy" are the same as the "transmission of mental impulses" written about over 60 years ago.

Ongoing research in New York demonstrates beneficial effects of chiropractic care. Ninety-six people having regular chiropractic care, lo-fat, high-fiber diet, regular exercise, and little or no alcohol or smoking consistently demonstrated better results on some significant tests. The most pertinent one here demonstrated a two- fold increase in certain immune cell enzymatic activity over "normal" individuals. Also demonstrating positive effects on the bodies ability to prevent chemical damage to DNA and cellu-

lar damage by reactive derivatives of oxygen. this research is ongoing and should yield more conclusive results in a few years. One of the chief researchers involved feels that the chiropractic adjustive therapy is the single-most important factor in these findings. Some of the preliminary findings appear in EAST WEST magazine in November, 1989.

## CHIROPRACTIC AND HIV

HIV is a retrovirus. Viruses may be classified according to the type of nucleic acids in them, either RNA or DNA. HIV is a RNA containing virus. Viruses use the host (human) cells to replicate. The virus commandeers the human cell's energy and protein manufacturing systems. This done, the retrovirus can then direct the human cell to reproduce the RNA and proteins necessary to form copies of itself. The retrovirus must first cause the synthesis of DNA complementary to the virion RNA before the replication can occur. This is the role of the viral enzyme reverse transcriptase. One treatment approach has been to attempt to inactivate this enzyme. Preliminary research indicates the chiropractic can effect certain DNA related enzymes found in human cells. Reverse transcriptase is a viral enzyme and whether chiropractic adjustive therapy would have any effect on it, or the body's ability to counteract it, is unknown at this time. My opinion is that with optimal cell functioning, the body may be able to resist partially, or even fully, the effects of a foreign enzyme system. This may explain why some individuals that have been HIV+ for a number of years do not show any signs of viral progression.

To attain optimal cell function requires a committed person who will address all areas of her or his life: physical, emotional and belief system. A three-legged stool with only two good legs will not stand. In my approach, I check each area of the spine that correlates to immune function and treat according to my findings. The adjustive therapy is first and foremost in my treatment. The chiropractic adjustment is specific in its goal. That is to remove pressure from the nerve root, thus allowing for the unimpaired transmission of messages between the nervous system and the periphery. I may utilize a reflex therapy if I feel it will benefit the patient. I also advise on nutrition and dietary practices, as this is part of the chiropractor's armamentarium. I do believe in the benefits of chiropractic care, as do my patients.

*(Dr. Smith is a chiropractor who maintains a private practice in Los Angeles. He has been involved with the care of HIV+ individuals and can be reached at 213.257.9309 for consultation.)* ▼

# VITAMIN E AND IMMUNITY

by Dr. Brian A. Smith, D.C.

The FDA claims there is no evidence to support nutritional supplementation of vitamin E over the RDA of 30 IU's. ("Vitamin E - Miracle or Myth" publ. No. 76-2011). This author found 38 research papers, articles and texts in his possession that contradicts the FDA. From Lancet, the New England Journal of Medicine, American Journal of Clinical Nutrition, etc., these sources are very clear in that the RDA of 30 IU's does not even approach the amount needed for optimum health. Dr. M.K. Horwatt, who established the RDA at 30 IU's, discovered an error in his calculations and now recommends 800 IU's daily.

## SOURCES OF VITAMIN E

Vitamin E complex (there are eight naturally occurring forms of vitamin E) is found in a variety of foods. Alfalfa, asparagus and spinach are noteworthy sources. Most green vegetables will have moderate amounts. Dr. Weston Price spent years studying traditional diets and found they contained at least 300 IU's of vitamin E and usually over 400 IU's. Our over processed nutritionally depleted diet will provide us with 10 IU's as determined by the National Institutes of Health. Coupled with the amount of fat in our diet, pollution, chlorine in tap water and a multitude of other stresses, the functional intake of vitamin E is nil.

## FUNCTION OF VITAMIN E

Vitamin E's primary function is to neutralize free radicals and is therefore an anti-oxidant. Free radicals are highly reactive substances that will chemically combine with body chemicals to create rancid and toxic products. The cell wall weakens by just this type of reaction and loses its functioning capacities. Being a free radical scavenger, vitamin E serves to stabilize membranes, maintain integrity of the blood and nervous systems, protect lungs from oxidative damage by air pollution, maintain skin, eye, liver, kidney and genital structures, prevent destruction of vitamin A, and serves a host of other functions. There is also an increasing amount of evidence that Vitamin E is used as a building material for CoEnzyme Q-10 (which appears to have immune enhancing properties).

## VITAMIN E AS IMMUNE ENHANCER

As an immune enhancer, vitamin E has been shown to increase resistance to infection, increase antibody levels two- and three-

fold, stimulate B-lymphocytes directly and indirectly through T- lymphocyte activation and promote T-4 lymphocyte activity. Other effects include an increase in endurance and stamina by decreasing creatine elimination, greater blood flow to the heart, preventing blood clots by decreasing thrombin and dissolving fibrin, preventing destruction of hormones, facilitating the effectiveness of B-12 and protecting vitamin B-complex and vitamin C in the digestive tract.

The chemical reaction by which vitamin E reacts with a free radical uses other substances. Glutathione peroxidase is required for this reaction to occur. Glutathione is required in a later step to reconstitute a second anti-oxidant compound such as vitamin C. The trace mineral selenium is found in glutathione peroxidase and it has been known for years that selenium supplementation increases the effectiveness of vitamin E. Lancet has recently reported that people with HIV have a greatly reduced level of glutathione and it is theorized that this may be a cause of the initial decline in immune functioning. It is possible to increase glutathione levels with nutritional supplementation, which will be a topic in an upcoming column, rather than with drugs like Mucamyst (NAC) which is incompatible with numerous compounds including hydrogen peroxide, certain antibiotics and pancreatic enzymes.

## IMPAIRING ABSORPTION

Vitamin E absorption from the digestive tract is dependent on pancreatic secretions and bile. Abnormal function of the pancreas or gallbladder can impair absorption. Other factors which reduce availability include ingestion of mineral oil, chemical binding in foods, cooking losses (vitamin E is destroyed by heat and oxygen), frozen storage, and intestinal malabsorption syndromes. Use of birth control pills will also decrease available vitamin E. Most processed foods, such as flour and its products, are devoid of any vitamin E. Consumption of any oil products requires additional vitamin E. Measurement of the body's vitamin E is best done in the form of a ratio because as cholesterol and triglyceride levels increase, serum vitamin E levels do too. The normal range of the ratio of vitamin E to triglyceride appears to be 35 to 120.

Changes from vitamin E supplementation occur over a period of at least 6 weeks.

Sudden improvements are rarely seen, as it works at a functional orthomolecular level rather than by attacking or altering one specific function that is causing a problem.

## FORM OF VITAMIN E

As mentioned before, there are at least eight natural forms. Four of these, the tocotrienols, are rare and are not found in supplements to any appreciable degree. Four others, the tocopherols, are found with varying frequency. By far the most abundant is alpha-tocopherol with lesser amounts of beta-, gamma- and delta-tocopherol. These 3 lesser tocopherols are usually referred to as "mixed tocopherols." Natural tocopherols will have a d- preceding the name, hence: d-alpha-tocopherol. Synthetic forms are designated dl- and have less than half the biological activity of natural forms. Sometimes a form will appear as d-alpha-tocopheryl. This means that it was chemically isolated, "-ol" is used when no chemical isolation has occurred. A fourth part of the name will indicate what the vitamin E has been combined with for stability. The "acetate" form is used in liquids, the "succinate" form in dry capsules and tablets. Also found are water soluble disodium phosphate and "micellized" forms. Lastly, an "emulsified" form is available.

Research indicates that the water soluble forms are somewhat better absorbed. Next is the emulsified form followed lastly by the normal fat soluble succinate or acetate forms. The water soluble forms are harder to locate and more costly. The cheapest form is the fat soluble. Some companies add other oils to their capsules to make them larger. These oils are often rancid and the capsules have lower amounts of vitamin E than stated on the packaging.

I recommend using either the micellized or fat soluble forms depending on your individual constitution. If you have digestive problems or diarrhea, the fat soluble forms will probably not be too helpful. A pure "d-alpha-tocopherol with mixed tocopherols" is the best fat soluble form, "Nature's Life" being a good brand. Micellized is a better source, though harder to find and more expensive. "Ethical Nutrients" is a good one though it does not contain mixed tocopherols. Though more expensive, much less is required to increase serum vitamin E levels.

## SOME CAUTIONS

I always stress the importance of being under the care of a knowledgeable profes-

sional for any health concern, whether you are using herbs, vitamins or homeopathics. Those with high blood pressure are cautioned against self supplementation as vitamin E may increase blood pressure. Very low dosages with careful monitoring is necessary. Vitamin E may also interfere with blood clotting so hemophiliacs are advised likewise. Those with pending surgery or on anti-coagulants are cautioned not to take vitamin E unsupervised. A conservative amount would be 400 IUs of the fat soluble form for an individual without any of the contraindications listed above, 75 IUs of the micellized form. I have utilized a range of 400 to 2500 IUs, depending on patient needs, with higher amounts on rare occasions.

*(Dr. Smith is a chiropractor and director of New Health Concepts in Los Angeles. He has been involved with the care of HIV+ individuals since beginning practice here. He can be reached at 213.275.9309 for private consultation.)* ▼

# GLUTATHIONE AND THE IMMUNE SYSTEM

By Dr. Brain A. Smith, D.C.

In December 1989 *Lancet*, a research journal, reported that asymptomatic HIV+ people have been found to be deficient in "glutathione." Specifically, blood levels of glutathione average a 30% decrease, and a 60% decrease in lung tissue, in relationship to a control group. The authors state this may be one of the initial steps in the breakdown of the immune system. Glutathione is needed for immune function and for the body to handle the class of highly reactive compounds called free radicals. It is also a respiratory transporter of oxygen. It has been demonstrated that HIV gene expression can be enhanced by oxidative cell damage, such as that caused by free radicals. ("Activation of HIV-1 by DNA Damage in Human Cells," *Nature*, 1988, 333:78-81).

Glutathione, abbreviated GSH, is made of three amino acids: glycine, glutamic acid, and cysteine; it is produced by the liver. It is found in high concentrations in red blood cells. Moving GSH into a cell from the bloodstream requires a "transpeptidase" molecule. Each part of GSH is moved in separately, then GSH is reconstituted in the cell. For free radical oxidation, cysteine is considered to be the "active" portion. GSH, in turn, is incorporated into a complex called "glutathione peroxidase." This consists of 8 glutathione molecules and 4 selenium atoms. Even though the *Lancet* article researchers did not measure levels of glutathione peroxidase, it is very likely that it is also decreased in asymptomatic HIV+ individuals.

It has been theorized that GSH deficiency may be due to increased oxidative stress (more free radicals) in HIV patients. Studies done in 1986 and 1988 and reported in the *Scandinavian Journal of Infectious Disease*, done in both Huddinge and Roslagstull Hospitals in Stockholm, Sweden have demonstrated increased production of oxygen free radicals and enhanced lipid (fat) peroxidation in HIV patients. Drs. Jarstrand, Akerlund and Lindeke state "The increased radical production and lipid peroxidation noted in HIV-1 positive patients could contribute to the tissue damage, cancer development, and premature aging seen in AIDS. Both glutathione and cysteine have antioxidant roles and are likely to be consumed in this disease." (*The Lancet*, 27 Jan. 1990, 335:235.)

Once in the cell, GSH itself is used as a transpeptidase and is required to transport amino acids into cells where proteins can be

made. In this cycle, called the Meister cycle, GSH is broken down by enzymes, the individual components guide the movement of amino acids into the cell and release them for use, and then GSH is reconstituted by other enzymes. All cell walls, antibodies, interferons, enzymes and numerous other compounds essential for life are made in cells from amino acids. Without the ability to transfer amino acids in, the cell wall grows weak and the immune capabilities decrease.

Another function of GSH is to detoxify certain dangerous substances including some cancer causing agents and drugs like phenobarbital. When exposed to these substances, the liver secretes GSH and three other similar proteins to combat this threat. After reacting with GSH, these dangerous compounds are easily excreted by the kidneys.

DTC, or Imuthiol, has been used in the treatment of HIV infection. One mechanism of action of DTC is its antioxidant property. DTC is known to substitute for GSH in animal models. Three double-blind placebo controlled studies have been completed with DTC demonstrating a significant reduction in primary opportunistic infections (62% in one study). Doctors from the Institut Merieux and Hospital E. Herriot in Lyons, France and the Arizona Cancer Center at the University of Arizona (Tucson) state "The therapeutic effects of ditiocarb (DTC) may well be related to its antioxidant and glutathione-peroxidase-replacing properties." (*The Lancet*, *ibid*).

GSH in the liver prevents damage to that organ by acetaminophen (Tylenol). "...once hepatic glutathione reserves are exhausted, even a small amount of paracetamol [acetaminophen] could produce severe and possibly fatal hepatotoxicity," reports Dr. John Henry of Guy's Hospital, London. (*The Lancet*, *ibid*.) The use of acetaminophen containing products such as Anacin3, Datriil Extra Strength, Comitrex or Tylenol, should be carefully monitored by anyone with HIV, and if possible, avoided until further research is completed. If you experience any unexpected or unexplained symptoms after using a product containing acetaminophen, contact your health care provider.

How can GSH levels be increased? It is known that intravenous infusions of GSH increase blood levels for less than 15 minutes. The uptake by lung, and other, tissue may account for this short time. There exist no studies to my knowledge demonstrating

that oral ingestion of glutathione will lead to an increase in the body. Of course the demand for this type of research is very limited, and it is costly to perform. A drug called NAC, or Mucomyst, has been used to increase GSH levels successfully. Unfortunately the possible side effects and contraindications of NAC make it a less than desirable approach. You cannot take NAC if you are using hydrogen peroxide. It is also incompatible with several anti-bacterial such as amphotericin-B, erythromycin, ampicillin and tetracycline. NAC is normally used to help clear mucus from the lungs and also as a remedy for Tylenol overdose.

It is known that high levels of the amino acids cysteine and methionine are required on the outside of the cell to have high levels of GSH inside the cell. This stems from the fact these two amino acids contain sulfur and one, cysteine, is required to make GSH. If the concentration of sulfur containing amino acids outside the cell drops, cysteine will leave the cell to balance this drop resulting in low levels of intracellular GSH. It was reported in *Biological Chemistry Hoppe Seyler* (1989, 369:143-48) that low blood levels of cystine and methionine were found in HIV+ individuals. Cystine and cysteine are readily interconvertible and, along with methionine, are intricately linked to GSH. It has been demonstrated that low levels of these amino acids will lead to low levels of GSH.

The safest and most effective approach, I feel, is to support the body by taking a combination of glutathione, cysteine and methionine. Cysteine and methionine work two ways: first, by keeping the extracellular concentrations elevated and second by supporting the liver, allowing it to make GSH. Selenium is also required so glutathione peroxidase can be made. I further use specialized products that have been shown to increase the levels of glutathione peroxidase in the blood.

Amounts of the above are individualized for each person; unsupervised self-treatment is never recommended. A health professional with expertise in nutrition is recommended. Always ask what their credentials are!

Nutrition is an unregulated field and many people have no formal education in nutrition or perhaps a limited amount. Whereas medical doctors study much about

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## GLUTATHIONE

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drugs and pharmacology, chiropractic doctors spend comparable time studying nutrition. Some of us have continued to further our education and actively practice with nutrition. Some have obtained Ph.D.s in nutrition. Remember, a nutritionist with a Ph.D. does not necessarily have the Ph.D. in nutrition! There are some lesser degrees in nutrition available and some people holding them are knowledgeable and some are not.

To sum up, we know that asymptomatic HIV positive, and I assume all HIV positive, people are deficient in glutathione. Second, this has an adverse effect on all phases of immune function, and in fact may be responsible, in part, for the initial breakdown of immune function. And third, there are natural, non-toxic ways to bolster the bodies level of glutathione and glutathione peroxidase to counteract this deficiency.

*(Dr. Smith is a chiropractor and director of New Health Concepts in Los Angeles. He has been involved in the care of HIV+ individuals since beginning practice here. He can be reached at 213.275.9309 for private consultation. )* ▼

# AN UPDATE ON VITAMIN C AND IMMUNITY

By Dr. Brian A. Smith

*The purpose of this article is to provide information only and should not be construed as a recommendation of a course of action.*

Recent research has prompted an updated look at the use of vitamin C as it relates to an HIV infection. As reported in an article entitled "Suppression of human immunodeficiency virus replication by ascorbate in chronically and acutely infected cells," (*Proceedings of the National Academy of Sciences, USA*, September 1990) research conducted by Steve Harakeh, PH.D., and Raxit J. Jariwalla, PH.D., demonstrates a definite anti-viral effect of vitamin C. Blood levels of 25 to 159 mcg/ml were found to substantially reduce viral activity, measured by p24 levels, reverse transcriptase and syncytia formation. The higher concentrations appear to work more effectively. The question now is, how does one obtain this concentration of vitamin C in the blood?

Other research has shown that oral ingestion of 10 grams (10,000 mg) of vitamin C resulted in an average blood level of 28.91 mcg/ml. Pure ascorbic acid is routinely used to determine uptake ability. Other forms of vitamin C have demonstrated superior uptake abilities and longer retention in the body as measured by blood levels and metabolite excretion. This may allow higher blood levels to be obtained and maintained by changing the form used.

Another area of research concerns free radicals. These highly reactive substances can adversely affect the function of the immune system by reacting with the fat found in cell membranes. Recent research has shown that vitamin C alone completely protects the fats from free radical damage. "Ascorbate is an outstanding antioxidant in human blood plasma." (Balz Frei, Laura England and Bruce N. Ames; *Proceedings of the National Academy of Sciences, USA*, August 1989) It is notable that the Recommended Daily Allowance (RDA) of vitamin C was determined without any consequence to the anti-oxidant capabilities, only its collagen synthesizing ability. The RDA reflects what a healthy person requires to prevent a disease named scurvy. A healthy person does not live in a high-stress environment, does not breathe polluted air, does not have a compromised immune system, does not smoke or drink alcohol, etc. This type of person is very hard to locate.

In my previous Newsletter article on vitamin C, I mentioned several other salient points. It was found that when human volunteers were fed at least 1000 mg of vitamin C per day, their antibodies and complement proteins increase. Experimental animals survive induced influenza virus infections with greater success if they are treated with vitamin C prior to inoculation. Guinea pigs kept vitamin C deficient have decreased T-lymphocyte numbers, but if they are given excess vitamin C, the T-lymphocyte numbers are increased.

Vitamin C is utilized when white blood cells engulf bacteria, viruses and cellular debris and supplementation of vitamin C improves the ability of white blood cells to increase the speed with which they get to infected areas. Macrophages combine hydrogen peroxide with vitamin C, metal ions, antibody, complement and lysozyme to kill ingested bacteria. Research also suggests vitamin C influences the ability of different body cells to effect production of interferons. The thymus gland requires vitamin C for optimum activity in producing T-lymphocytes. Experimental animals lose their ability to detoxify drugs and

chemicals by 50 to 65 % when kept vitamin C deficient. Vitamin C helps to protect the body from the detrimental effects of smog and radiation. It also aids in the metabolism of some amino acids and protects many other vitamins from oxidation.

What does this all mean? Each person requires differing amounts of vitamin C depending on their particular circumstance. What type of job stress do they experience, do they smoke or drink, where do they live? All of these play into the amount required. Requirements fluctuate almost daily. A person with a cold will require more when the cold is at its height. The body allows for a greater uptake when the need is greater. When amounts ingested are high, such as 10,000 mg, it must be monitored to assure that there are no contraindications. Lower amounts such as 500 mg should pose no problems, but this level will not attain that required to demonstrate antiviral activity. Consultation with a qualified nutritional expert should always be first, prior to any changes.

*(Dr. Brian Smith is a chiropractor who has studied nutrition extensively. He has recently relocated to offices in Palms, just southwest of Century City. He is available for private consultations and can be reached at 213.559.6584.)* ▼

# PRACTICAL APPLICATIONS OF NUTRITION

by Brian Smith, D. C.

This is an actual case history of a patient who is currently under my care. I use this case to illustrate the use of nutrition in the management of HIV infections. This case is specific for the individual involved, and this article should not be construed as a recommendation of treatment for anyone other than the individual involved.

A 28 year old female presented herself to this office requesting nutritional guidance. She had been referred by a colleague. The patient is in her first trimester of pregnancy. She relates that she has been HIV positive since November 1987. She has taken no specific course of action since that time. She has decided to have this child and is seeking nutritional counseling. She further stated her desire to refrain from any prescription drug use.

Her health history is remarkable for cervical dysplasia in 1987 and 1988, pneumonia, and a history of "cold sores." Her family health history demonstrates a tendency to cancer on the maternal side.

Physical examination revealed a well-nourished female, 55.5 inches in height, weighing 119.5 lbs. Her reclining blood pressure was 106/76. Review of previous medical records demonstrated a low red blood count (3.96, normal is 4.8+/-0.6), high sedimentation rate and low lymphocyte count. Urinary PH was low at 3.5. A hair analysis showed extremely high levels of copper in her hair. No T-cell subsets had been performed.

New lab work demonstrated a mildly elevated serum copper, depressed red blood counts, hemoglobin and hematocrit. Her platelet count was low at 142,000. Her T-cell subsets demonstrated a T-4 count of 305 and a T-8 of 729 and a low ratio of 0.4. Her P-24 antigen was negative and the Beta-2-M was within the normal range at 2.1 mg/1.

She was advised on a nutritional approach incorporating a high protein, low fat moderate carbohydrate diet and a regimen of nutritional therapeutic substances to counteract the anemia, the adrenal insufficiency (as evidenced by the fall in blood pressure when assuming an erect posture plus subjective complaints) and to bolster the immune system. This included a good multiple vitamin/mineral complex, vitamin C, DMG, certain B vitamins, chromium and a product used to bolster her immunity to a number of pathogens. It was recommended

she maintain visits to her chiropractic doctor who utilized a variety of techniques, adjustive and reflex, to assist her. She was also under the care of an ob/gyn who is knowledgeable in homeopathics.

After one month, the patient complained of severe headaches. She was referred to a neurologist for evaluation. This doctor was not sympathetic to the patient and quickly alienated her by his pronouncements that she was inept and she should seek medical consultation and refrain from what she was doing. The patient was angered by this attitude. A report from the neurologist was no help in that the appropriate laboratory tests were not ordered. I ordered tests for toxoplasmosis and cryptococcus which came back negative for recent infections. We decided to continue with conservative care and her headaches soon abated.

Follow up laboratory work showed a worsening in the platelet count, first to 63,000 (normal 150,000 to 450,000), then to 39,000 within 2 weeks. Other lab work showed continued anemia and slightly elevated liver enzymes. A nutritional protocol for low platelets was immediately started. This consisted of beta-carotene, germanium, liver, supportive complexes, sesame seed oil and the amino acid methionine. She was referred to a hematologist for a complete work up. Within two weeks her platelet count had risen to 60,000. The hematologist recommended a continued course of conservative care and voiced his hesitancy of the use of AZT. A bone marrow biopsy revealed the low platelet count is due to a peripheral destruction problem. A trial of gammaglobulin was done to assure us that the patient will not have an adverse reaction if this is again needed as her delivery date approaches. Her platelet count rose to 139,000 and we will monitor it continuously.

Her T-cell subsets have remained at approximately the same levels and she has experienced no health concerns other than the ones listed above. She reports feeling great and is anxious to have her child. She has gained over 20 lbs., her blood pressures have normalized in their response to assuming an erect position and the baby is quite active. We will continue to monitor her other laboratory abnormalities and focus on them now that the low platelet count has been successfully handled.

This case presents many questions that require extensive thought. Will the child be

HIV+? Statistics show that there is 30 to 50% chance a child will be. The study groups however are slanted in that these mothers are, for the majority, IV drug users, they have poor nutrition and usually are in an environment not generally supportive. Intrauterine infection does not appear likely as research shows that the umbilical cords are usually negative for infection markers. This question has been on the mind of this patient constantly. It has been decided by her and her husband to have this child. She wants to breast feed the child. Are there problems with this? All the evidence isn't yet in on this question. Breast feeding does pose a problem in that the virus has been found in mothers' milk. We are currently looking into options such as pasteurization or freezing of her milk to inactivate the virus.

This case demonstrates the use of nutritional therapeutics in an especially difficult case. Fetal and maternal nutrition are serious concerns. Add to this an HIV infection and we have a very complicated picture. This case also points out the necessity to use health care professionals that are knowledgeable in HIV infections and that are not closed-minded. Make sure that all the people you consult with are accustomed to treating persons with HIV infections.

*(Dr. Brian A. Smith is a chiropractor who has been involved with the care of HIV+ individuals since beginning practice here in 1987. He can be reached at 213.559.6584 for consultation.)*

## NUTRITION UPDATES

by Brian A. Smith, D.C.

### GLUTATHIONE AND THE IMMUNE SYSTEM

I wrote an article regarding glutathione for the June 1990 Being Alive Newsletter. As I wrote in that article, glutathione, made of three amino acids, is required for proper immune function and free radical oxidation. HIV+ people have demonstrated a decreased level of glutathione in the blood (30% decrease) and lung tissue (60% decrease). The cause of this deficiency has not yet been determined. The possible results include impaired immune function and an increase in oxidative damage which may enhance HIV gene expression. (Please refer to the article for a more detailed explanation.)

At the time I wrote that article there was no information about benefits realized by increasing glutathione levels. My opinion was that a normalization of these levels would allow better immune function and decrease the damaging oxidative stress that is apparently increased in HIV+ people.

Now, from Cornell University Medical College comes preliminary research that glutathione does suppress the spread of HIV in a test tube. Dr. Alton Meister, co-author of the study (published in the *Proceedings of the National Academy of Science*, Feb. 10, 1991) and chairman of the Department of Biochemistry at Cornell, said that up to 90% of the spread of the virus can be blocked by two forms of glutathione and one of its constituent amino acids. The reduction of virus production appears to be proportional to the amount of glutathione. He also stated that glutathione deficiency may contribute to the breakdown of the immune system.

Readers of the Being Alive Newsletter should be pleased to know that they have been informed about glutathione since June 1990.

### PRACTICAL APPLICATIONS

In the February 1991 issue of the Being Alive Newsletter I detailed a case history of an actual HIV+, pregnant patient who had a low platelet count. I continue with this case.

After the trial of gamma globulin which increased the platelets to 139,000, they dropped to 71,000. This was expected since the effects of gamma globulin are transient. The platelets continued to rise with the nutritional protocol designed for this patient. They peaked above 80,000, which is still low; normal is 150,000 to 400,000.

As the patient's "due date" approached, her platelet count started to decline once

again. A larger dose of gamma globulin was given; however, the response was less, to 110,000. This time her platelets dropped to 60,000 and stayed there. Her Ob/Gyn refused to allow a vaginal delivery for fear of hemorrhage of the mother or infant. Another dose of gamma globulin was injected along with the steroid prednisone, in an effort to increase the platelet count. She went into labor before the drugs could work and by that time the platelet count had dropped to 39,000.

At this time a second hematologist was called in and voiced his opinion that the low platelets may have caused by Disseminated Intravascular Coagulation (DIC). The DIC could be a result of the fact that this patient had a second fetus which died in the 14th week of pregnancy. If the lab tests support this possibility, there is little anything could have done, conservatively and medically, until this second fetus was removed.

The fact that we had positive response from a nutritional protocol and reversed the platelet decline speaks highly for the effect of properly applied nutritional therapeutics. We were able to forestall the administration of medications the patient didn't want to take and which, ultimately, would probably not have worked.

The good news is that this patient is a happy mother now, via cesarian section. We will monitor both mother and baby continuously. The umbilical cord will be checked for viral markers to help determine if the baby has the virus. We plan to perform a viral culture at two months if possible. The baby may be HIV antibody positive for up to two years before the body clears the antibodies away.

*(Dr. Brian A. Smith is a chiropractor who has been involved in the care of HIV+ individuals since commencing practice in Los Angeles. He can be reached at 213.559.6584.)* ▼



## GARLIC AND THE IMMUNE RESPONSE

by Brian A. Smith, D.C.

Many patients of mine regularly use garlic as a therapeutic substance. This is the impetus for this article. I wanted to see if there was any validity to this practice.

Garlic has been used for centuries to treat a variety of human ills. More and more research is being published about garlic; over 1000 references have been published in the last 20 years alone! Let's take a look at some select articles.

The benefits of garlic appear to be related to the "sulfhydryl" compounds it contains. These sulfur containing compounds have demonstrated a wide variety of beneficial actions in the body. Incidentally, it is these same compounds which lend garlic its pungent odor!

Research in a clinical setting in China in the 1970's showed that immune cells were more active in patients being fed garlic juice. In animal studies, mice injected with a garlic extract demonstrated an increase in immune cell production and function. When a garlic poultice was applied externally to rabbits, there was a demonstrable increase in immune cell production and function. A poultice is crushed garlic placed directly on the skin and covered with a bandage for a period of time.

This doctor has regularly used garlic and onion poultices for sinus and middle ear infections as well as tonsillitis with great success. I have also used garlic internally to help with lung and gastrointestinal problems.

The Chinese have used garlic preparations to treat dysentery and parasitic worms. Injections of garlic extracts have been a treatment for meningitis, typhoid and paratyphoid. Garlic soup is an old treatment for pneumonia and inhalation of garlic vapor has been used to treat whooping cough. Garlic poultices have been applied to the lower right abdomen to treat acute appendicitis successfully.

In the Journal of Oncology, researchers have demonstrated, in a pilot study involving 10 AIDS patients, that garlic supplementation for 12 weeks had a notable effect. There was an increase in natural killer cell activity and the helper/suppressor cell ratio increased.

The National Cancer Institute is reported to have started a research project into the cancer-fighting abilities of garlic.

Garlic also appears to be able to suppress candida albicans, the organism responsible

for thrush and other yeast infections. Dr. Adetumbi found that garlic stops the growth of candida albicans by preventing formation of fats necessary for the cell membrane to form.

In Phytotherapy Research, a research study demonstrated that garlic does boost the immune system. Garlic has also demonstrated anti-tumor properties in several studies. Garlic also protects against the conversion of nitrites to nitrosamines, which are carcinogenic substances.

To date I have not found any consensus of opinion as to what amount of garlic is considered beneficial. Crushed garlic can burn delicate tissues of the mouth, throat and stomach if too much is used. The sulfur-containing compounds are generally unstable and they may change with processing so the nutritional value of garlic supplements varies from company to company. The "friendly" or odorless garlic supplements appear to be effective as a therapeutic agent. There is also a "sociable" garlic clove that is becoming increasingly available in supermarkets that has the same taste, but no lingering odors. How these cloves differ chemically from regular ones is unknown to me at this point.

Patients have swallowed small whole cloves of garlic to prevent mouth odor. It may be hard for the body to digest the fibrous clove and an enzyme supplement may be required. Some have used a garlic suppository but the efficacy of this is unknown at this time. Most likely a combination of garlic cloves and garlic supplements would be ideal for those people able to tolerate garlic.

One area of concern would be people with herpes or cold sores. The arginine content of garlic is high in relation to the lysine content. The herpes virus requires arginine to multiply. Lysine is used to counteract this. Large doses of lysine are used to treat herpetic cold sores and this works by blocking arginine uptake by the virus. Foods high in arginine should be avoided by people susceptible to herpes outbreaks, and this would include garlic.

(Note: This article is to be considered informational only and is not to be construed as a recommendation of a course of action.)

(Dr. Brian A. Smith is a chiropractor who works with HIV+ patients. His office is near Century City and he is available for private consultation at 213.559.6584.)

# GERMANIUM AND THE IMMUNE SYSTEM

by Dr. Brian A. Smith

Germanium is an element that is found in high concentrations in some plants having healing properties. Ginseng and shiitake mushrooms have significant amounts of germanium and it has been theorized this may contribute to their therapeutic value. Certain foods known for their healing qualities also contain germanium in large quantities. These foods include garlic, aloe, comfrey and chlorella.

## FORMS OF GERMANIUM

Several forms of germanium exist and some are toxic to the nervous system. The most widely used is germanium 132 (bis-carboxyethyl germanium sesquioxide). This has an extremely low toxicity level. Also available is germanium-lactate-citrate (GLC). This form is also very non-toxic and appears to have a higher absorption rate than Ge-132. Forms that are neurotoxic include germanium oxide and spirogermanium.

## HOW GERMANIUM AFFECTS THE IMMUNE SYSTEM

Germanium affects our immune system through several reactions. Animal studies have demonstrated that germanium may restore declining immune function. Other animal studies demonstrate production of gamma-interferon is stimulated by germanium. Human studies also demonstrate increased gamma-interferon production.

Germanium appears to act as a regulator of certain immune functions. Studies in immuno-suppressed animals and humans suggest that germanium restores normal function of T & B lymphocytes and natural killer cell activity. Much of the response to germanium is identical to the response seen with increased gamma-interferon levels.

Germanium also appears to have an effect on glutathione levels. Glutathione is an essential compound for stimulation of the immune system. Research over the past two years has demonstrated first, low levels of glutathione are found in HIV+ individuals and second, bolstering glutathione levels will inhibit viral activity. A paper presented at the International Conference on Organic Germanium in Hanover, Germany, in 1984

reported that germanium supplementation increases liver glutathione levels.

## ABSORBING GERMANIUM INTO THE BODY

Germanium does not stay in the body very long. After oral administration, blood levels will peak in about 3 hours and the kidneys will filter most of a single dose out of the body within 24 hours. To maintain therapeutic levels, it is necessary to take germanium more than once a day. Most germanium is absorbed in the small intestine. Germanium is water soluble and therefore easy for most people to absorb. About 30% of Ge-132 and about 50% of GLC is absorbed within 1 hour. Long term absorption studies show that GLC continues to be absorbed over a period of 12 hours with 95% absorbed ultimately. GLC contains less elemental germanium than a comparable Ge-132 dose. These two factors result in very similar doses yielding identical blood levels.

## SIDE EFFECTS

Side effects of germanium, in the non-toxic forms of Ge-132 and GLC, are minimal. Up to 3% of people may experience minor skin eruptions and/or softening of the stool. Both of these side effects were reported in studies where doses greater than 2000 mg per day, were used. The toxic forms of germanium are dangerous and have led to death from kidney failure.

Therapeutic doses of germanium require professional supervision. The most widely used protocol is 450 to 500 mg per day divided into 3 or 4 doses. Some professionals recommend 'staggered' use: 3 days on, 3 days off.

## THERAPEUTIC TRIALS NEEDED

A therapeutic trial of germanium in immune suppression treatment appears warranted. The available research demonstrates immuno-modulating effects that are beneficial and organic germanium is essentially non-toxic.

*The information in this article is for educational purposes only and should not be construed as a recommendation of a particular course of treatment for any individual. Always consult with a qualified health care professional prior to making any changes in your treatment plan.*

*(Dr. Brian A. Smith is a chiropractor with a private practice. He can be reached at 213.559.6584 for consultation.) ▼*

OVER 60 YEARS AGO A chiropractic text stated that immunity depends upon the perfect transmission of mental impulses over the nervous system. "Science" scoffed at the idea of a connection between the nervous and immune systems for decades but, in an about-face, has recently claimed to discover that indeed, such a connection exists. This connection has, in fact, been known to exist for thousands of years. It is not a new discovery to many in the traditional (sometimes referred to these days as alternative) healing arts.

Chiropractic theory states that a disrelationship, or chiropractic subluxation, of a spinal vertebra (that is, if your back is "out") will cause an increase in pressure on the nerve root passing from the spinal cord to



# GARBLLED MESSAGES

## How Chiropractic Affects Viruses

the outer parts of the body. This pressure will decrease the proper functioning of this nerve, and all the tissues it stimulates, the muscles, skin, organs, etc. Further, any information going back to the spinal cord or brain from the periphery over this nerve may well experience interference. Your brain may receive a garbled message. Research has verified that there is enough pressure increase on the nerve root from a chiropractic subluxation to cause your nerves to function improperly. This can be true even with no pain.

It has been demonstrated that a portion of the nervous system, the sympathetic nervous system, directly sends energy to the thymus, spleen, lymph nodes, bone marrow and intestinal lymphoid tissue. A spinal fixation, or chiropractic subluxation, will alter sensory input to the nervous system. This may result in an overactive sympathetic nervous system at that level. This increased activity causes a release, from these nerve cells, of "catecholamines" which, in high concentration, will suppress the immune response by inhibiting T-lymphocytes.

*Psychoimmunity and the Healing Process* states "Chiropractic alignment of the body...is important in cases of AIDS and immune dysfunction. Adjustment...allows for clear flows of energy along the neurological pathways which help stimulate the immune system." These "flows of energy" are the same as the "transmission of mental impulses" written about over 60 years ago.

Ongoing research in New York demonstrates the beneficial effects of chiropractic care. 96 people having regular chiropractic care, low-fat, high-fiber diet, regular exercise, and little or no alcohol or smoking, consistently demonstrated better results on some significant tests. The most pertinent test demonstrated a two-fold increase in certain immune cell enzymatic activity over "normal" individuals. One of the chief researchers involved feels that the chiropractic adjustive therapy is the single most important factor in these findings. Some of the preliminary findings appeared in *East West* magazine in November 1989.

One way to classify viruses is according to the type of nucleic acids in them, either RNA or DNA. The HIV virus contains RNA, and is a retrovirus. Viruses use the host (human) cells to replicate. The virus takes over the

turing systems. Then the retrovirus can direct the human cell to reproduce the RNA necessary to clone itself. The retrovirus needs certain DNA to do this, and must first cause the synthesis of DNA complementary to the diseased RNA, before replication can occur.

It does this by using the viral enzyme, reverse transcriptase. One way of treating HIV has been to attempt to inactivate this enzyme. Preliminary research indicates that chiropractic can affect certain DNA related enzymes, but whether or not a chiropractic adjustment has an effect on reverse transcriptase, or the body's ability to counteract it, is unproven at this time. My opinion is that with optimal cell functioning, the body may be able to resist partially, or even fully, the effects of a foreign enzyme system like this one, which manifests as HIV. This may explain why some individuals who have been HIV+ for a number of years do not show any signs of viral progression.

### Ongoing research demonstrates the beneficial effects of chiropractic care.

To attain optimal cell function, you need to be a committed person. You need to address all areas of your life: your body, your emotions, and your belief system. A three-legged stool with only two good legs will not stand.

Preliminary to a chiropractic treatment, each area of the spine that correlates to immune functioning must be examined. The chiropractic adjustment is specific in its goal. That is to remove pressure from the nerve root, thus allowing for the unimpaired transmission of messages between the nervous system and the rest of your body. A chiropractor may utilize a reflex therapy or advise on nutrition and dietary practices. Any treatment will be most effective when you incorporate it into an overall holistic lifestyle.

—Dr. Smith hosts the local cable television program, *Your Health, Naturally*, and contributes to the *Computerized AIDS Information Network (CAIN)*, a state-funded computer data base on HIV/AIDS therapies. He maintains a private practice specializing in neurovascular disorders and nutritional therapeutics. He





## Health & Fitness

### Foot Injury? The Doctor Is In

*by Dr. Brian A. Smith*

The foot, often neglected or ignored, is the cause of a great many sports enthusiasts injuries and pain. In normal walking, a person weighing 100 lbs. puts 50 tons of pressure on the foot every mile. The feet contain almost one-fourth of the bones in the body. And remember, the feet are not separate, they are the foundation of our stride. The heel hits the ground with a force of 5 to 7 g's, the force is transmitted through the body, up the spine and dissipated until it reaches the head where one half g. of force is measurable.

Often we see the person who walks with their toes pointed outward to an excessive degree. This is usually the tell-tale sign of a foot problem. The normal pattern of weight bearing on the foot is first, the heel, then around the outside of the foot and across to the ball. As the foot gets "off-center," this weight bearing is shifted to the inside arch of the foot. This shifting of weight, with it's stress on the muscles, ligaments and joints, results in displacement of the bones of the foot. The bony malalignment further increases the shift of weight bearing toward the inside of the foot.

As the weight moves inwardly, the muscles in this region must work harder. Their original function is to maintain the "spring arch" of the foot and help with locomotion. This added stress of weight bearing causes these muscles to become overworked and, being strained, will tire, ache and cramp. As they are overworked they will increase in size and give the appearance of "fallen arches" (pes valgus). An arch support will only aggravate this situation. Putting pressure on a strained, swollen muscle does not help. The calf muscles are also affected. The tibialis anterior and posterior, on the inside of the leg, must now work to prevent the inward thrust of the arch that occurs with each stride or downstroke when cycling. This added work burden compromises the function of the leg as well as the foot.

Associated postural changes occur with the outward turning of the foot. The knees tend to rotate inward, partially as a result of the overworked calf muscles, partially due to the biomechanical changes found with foot pronation or eversion. The thigh will rotate inward at the hip joint and the pelvis, as a unit, will tilt forward causing much more stress on the sacroiliac and lumbosacral

joints. All these movement will detract from the optimum joint function as well as causing an imbalance in the muscles associated with each area. The curves of the spine, as a direct result of the anterior pelvic tilt, will increase in the degree of their curvature, allowing a greater chance of injury.

On the foot itself, the affected muscles will cause the toes, especially the outer ones, to "curl up" so the toes can not be straightened without assistance. The increase in friction between the overworked muscles often results in "bursitis." The bursa (a structure that reduces friction) between the quadratus plantae and the flexor digitorum brevis muscles can become inflamed. Corns and callouses appear on the outside toes and occasionally on the outside of the foot. These are from the rubbing of these parts against footwear caused by the outward thrust of the foot.

One common error is to increase the amount of exercise of the foot and leg muscles. Remember, they are overworked and strained already. We do not need to aggravate the situation by further muscle work.

One, oft overlooked, side effect of improper muscle function is the



Increase in susceptibility to infections at this time. The proper functioning of the muscles creates a pumping mechanism for the flow of lymph throughout the lymphatic system. The lymph, containing white blood cells to fight infections, becomes sluggish in flow and can not clear the system of invaders adequately.

Treatment of this condition is directed at correcting the bony displacements, relieving the muscle strain, and decreasing inflammation. Proper foot function should follow naturally. Specific adjustments to individual bones will increase joint motion and reduce the tension in the joint. The most commonly affected joints are the subtalar, or lower ankle, joint, the cuneiform joints and the cuboid joints. This adjustment alone may be all the treatment required as the muscles

can now operate within their normal range. Some muscle relaxing moves may be required as well as therapy for any inflammation, usually cold therapy. Using tape to help keep the adjustment longer may be required, especially if the patient is planning to keep cycling or jogging. New tapes are available that do not stick to the skin, are water proof and are reusable as well as washable. As the center of weight bearing is shifted back, the whole lower extremity starts to function in optimum capacity as a unit. The knees, hips, pelvis and spine may also have to be addressed during treatment as they, as we have seen, may be affected too.

To illustrate, in my clinic a patient appeared complaining of right shoulder discomfort from a work-related injury. In the course of treatment it was revealed that this

patient bicycles 20 to 25 miles per day, usually 5 days a week if not more. His right foot would hurt and eventually become numb during cycling. In the examination, both his feet had the toes curled with callouses on the tops of the two outer toes. Palpation revealed several very tender spots on the bottom of the foot with 3 bones being displaced. Following appropriate adjustments to both feet, the problem improved for two days, then returned. Adjusting again, this time with using tape to hold the adjustment, the problem was alleviated completely. After 2 more adjustments we were able to stop using the tape. His toes had started to straighten and the patient reports that his weight feels more on the outside of the foot than before.

We have just followed a scenario where the primary problem is in the foot itself. This is not always the case. As a foot problem can, and probably will, cause problems in the knee, hip, pelvis or spine, the reverse is also true. A back, hip or knee injury may be a primary cause of a foot problem. Don't assume that the primary problem is where it hurts the most. With any injury, seek knowledgeable professional health care immediately. Keep up with your health, prevention is the best approach. Don't wait until an injury exists to be checked. By then you may have to give up your favorite sport for a time. Be aware of your body and most of all, have a great time.

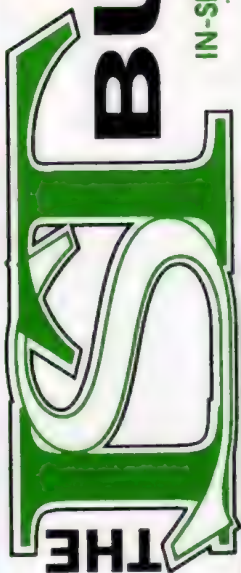


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# BULLETIN

IN-SERVICE TRAINING • MARCH 1988



## Protein and the Immune System

by Dr. Brian A. Smith, D.C.

We hear information constantly about our diet; what is good or bad for us; how much is good or bad for us; what to avoid; what to keep. It seems that everyone has their own opinion. These opinions are usually substantiated by some alleged research or unpublished studies. So where does one turn to get factual information? Reputable research journals, such as *Lancet*, the *Journal of the American Medical Association*, and the *Journal of Clinical Nutrition*, all have, at various times, valid research projects dealing with nutrition.

Protein is one of the three components of food; the other two are carbohydrates and fats. Proteins are made of various amino acids found in food. The sequence of the amino acids determines whether protein is a muscle cell or an antibody. A protein source is said to be "complete" if it contains all the amino acids necessary for production of human proteins. Certain amino acids can not be manufactured by the body; these are the "essential" amino acids. Without these, human protein cannot be made. The amino acids must also be present in certain amounts to form proteins. If you need five of amino acid "X" to make a certain antibody and you only have three, that antibody will not be made. The amount of the different amino acids determines the quality of the protein.

The majority of protein in the American diet comes from three sources: meats, including poultry; eggs; and certain cheeses. While these are not the only sources, they are the most common. In rating the quality of the protein, eggs come out on top. Eggs have the amino acid ratio closest to the

human requirement. The concern over cholesterol in eggs does not usually apply in HIV infection as a low cholesterol level is commonly found and low cholesterol levels pose their own risk. Cholesterol is not an enemy, but an invaluable part of your body chemistry.

Now for the myths and facts about protein:

**Myth #1.** Some books state that the long-lived people of the world have a low protein diet.

**Fact #1.** Long-lived societies tend to have a higher protein intake than the average American diet.

The Georgian Russian people are one of the oldest living societies on earth. Their protein intake contributes approximately 30% of their total caloric intake. This is double the protein intake of the average American diet. Likewise, the Vilcabamba of Ecuador and the Hunzas of Pakistan, two other long-lived peoples, have a higher protein intake than Americans.

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**Myth #2.** Protein is not needed for immune function.

**Fact #2.** A high protein diet will enhance your immune system.

As reported in *Nutrition Reviews*, a minimal protein deficiency in the diet will cause a 30 to 35% reduction in T-lymphocyte function. A reduction of this magnitude can be expected to enhance the risk and severity of infection. Chemicals found to inhibit the immune response (cortisol, C-reactive protein, endotoxins and antigen-antibiotic complexes) are found in higher blood concentrations in persons with inadequate protein intake. Also found is a pronounced reduction in the pro-

continues...



portion of T-4 lymphocytes. Since protein makes up all cell walls, antibodies, and interferons, it is evident that a high protein intake will enhance these functions.

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**Myth #3.** Proteins stay in your intestines for days and putrefy, causing more health problems.

**Fact #3.** Proteins take 8 to 12 hours to digest.

A review of the standard, acceptable physiology texts indicates that the intestinal transit time for a meal is between 8 and 12 hours. There appears to be no scientific basis for claims that proteins take any longer. The key here is optimum digestion. If the body can effectively digest and absorb the nutrients, proteins will not putrefy, carbohydrates will not ferment and fats will not go rancid. If there exists a problem with digestion, the answer is to correct the problem, not to eliminate the food.

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**Myth #4.** A vegetarian diet will supply all the protein needs for an immune challenged person.

**Fact #4.** Proper protein intake requires at least one animal source of protein: eggs, meats or cheeses.

While it is true that some protein can be obtained from a vegetarian diet, the amount necessary for an optimally functioning immune system would necessitate intake of food that would just be too great an amount to eat. The amount of carbohydrates in the vegetables would be high enough to turn off our "hunger" centers in the brain before the necessary protein could be ingested. A diet consistently high carbohydrates causes an increase in blood cortisol levels which have an immunosuppressive effect. Additionally, very few veg-

etables have "complete" proteins as we discussed earlier. Through food combining, a complete protein can be obtained, but again, the amount of protein is usually insufficient.

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**Myth #5.** A high carbohydrate diet is good for maintaining immune function.

**Fact #5.** A high carbohydrate diet is immune suppressive and is not recommended for immune compromised individuals.

The effects of a high carbohydrate diet are detrimental to proper immune functioning. This type of diet will suppress the systems in your body that clear out drugs and other foreign substances. Phagocytes and lymphocytes will not function properly and antibody synthesis will be depressed in persons on an extended high carbohydrate diet. This type of diet is also associated with higher levels of blood triglycerides (fat) and increased production of VDRL which specifically inhibits protein and DNA synthesis in lymphocytes.

To obtain an adequate intake of protein, a combination of foods is recommended. By combining we can obtain an adequate intake from 6 to 8 ounces of meats plus 1 cup of cottage cheese and 2 eggs. Using this formula as a base it is easy to modify on a daily basis; a little more meat and only 1 egg; no cottage cheese and 10 ounces of meats, etc. There are two grain sources of protein which are good as an additional source, not as a primary source of protein. They are quinoa (pronounced keen-wa) and amaranth. Found in specialty stores, such as Mrs. Gooch's, they can be made a variety of ways. Cooked with fruit juice, they make a good breakfast; add vinegar and spices for a side-dish; mix with steamed vegetables and

seasonings as a good lunch. Amaranth is also available as a pasta and as a cereal. The carbohydrate content of these grains tends to be high, which excludes them from being a main source of protein, but they are good as a supplemental source.

*Permission to reprint granted by Dr. Smith.*

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## THE 'B' VITAMINS AND THE IMMUNE SYSTEM

by Brian A. Smith, D.C.

The B vitamins are generally found together in nature and are dependent upon one another for functioning. In general, the B vitamins are important for the production of energy from food. The close interrelations among the B group usually preclude a single discrete deficiency of a B vitamin, although the signs and symptoms of a single deficiency may predominate. The B group plays an essential role in the metabolic processes of all living cells.

Alcohol, nicotine and stress are the three most common causes of B vitamin depletion. Many drugs will cause selective B vitamin deficiency; certain anti-inflammatory drugs, including aspirin, can cause a folic acid deficiency; and Rifampin is associated with a niacin deficiency.

The B vitamins especially important for the immune system are:

**Vitamin B6** (pyridoxine): Lack of this vitamin has been shown to inhibit cell-mediated immune functions as well as antibody production. A B6 deficiency results in atrophy of the thymus and spleen, both critical for proper immune function. B6 is also required to help assimilate proteins from the diet and people on a high protein diet may require larger amounts.

**Vitamin B5** (pantothenic acid) deficiency also results in atrophy and loss of function of the thymus gland. When coupled with a B6 deficiency, researchers demonstrated complete loss of antibody response.

**Vitamin B9** (folic acid) deficiency leads to a decrease in resistance to infection as well as impaired lymphocytes in both humans and experimental animals. Antibody production is also impaired. Folic acid is required for the formation of red blood cells and is used to counteract anemia. Requirements for folic acid should never be taken without proper supervision as supplementation may "mask" a vitamin B12 deficiency.

**Vitamin B12** (cyanocobalamin) is required for proper lymphocyte function. Production of DNA and amino acids (protein) is dependent upon B12. Red blood cells also require B12 for formation. Certain anemias may benefit from B12 and/or folic acid supplementation.

**Vitamin B2** (riboflavin) deficiency results in a diminished ability to generate antibodies. Certain medications such as tetracy-

cline antibiotics and certain tranquilizers will lead to a deficient state.

To counteract the possibility of a deficiency, a good multivitamin-mineral supplement is recommended. The "one-a-day" types are not of a high enough quality or dosage to address the problems found in immune challenged individuals. There are several available at the different health food stores in your area. They usually have a better product than your local drug store.

Individual deficiencies may manifest in many different ways, from not being able to recall dreams, to becoming dizzy when you stand up, to dry, scaly skin, to loss of energy due to anemia. Each person who is immune challenged should seriously consider having a trained health professional evaluate their nutritional status as early as possible.

*(Dr. Brian A. Smith is a chiropractor who has utilized nutrition extensively in the care of immune challenged individuals. He can be reached at 310.559.6584.) ▼*

August/September 1992 ▼



## VITAMINS AND THE IMMUNE SYSTEM

by Brian A. Smith, D.C.

*In this article I have summarized the most important aspects of vitamin therapy. Articles have appeared in the Being Alive Newsletter regarding each of the vitamins mentioned. I have included the issue the article appeared in for your reference. The purpose of this article is to provide information only and should not be construed as a recommendation of a course of action.*

**Vitamin A:** This vitamin enhances resistance to infection by increasing phagocytic cell migration and lymphocyte proliferation. It also enhances responsiveness to antigenic stimuli. Deficiencies have been shown to decrease lymphocyte activation, lower lysozyme and complement levels (both important chemicals of the immune system), impair secretory IgA production (especially important in the intestinal tract) and decrease T-cell dependent antibody responses. Due to possible liver complications, vitamin A supplementation is not usually recommended. (11/89)

**Beta-Carotene:** Beta-carotene appears to selectively increase T-4 cells, reacts with free radicals and free oxygen to help prevent genetic and cell wall damage, increases tumor necrosis factor, increases activity of macrophage and natural killer (NK)

cells. This changes into vitamin A as the body requires it. (11/89)

**Vitamin B2:** Deficiency results in decreased ability to produce antibodies. This vitamin may be depleted by certain drugs. **Vitamin B5:** Deficiency results in atrophy and loss of function of thymus gland. **Vitamin B6:** Deficiency inhibits cell-mediated immune functions and antibody production, atrophy of spleen and thymus. **Folic Acid:** Deficiency impairs lymphocyte function and decreases antibody production. **Vitamin B12:** B12 is required for proper lymphocyte function and the production of DNA and amino acids (protein). (9/92)

**Vitamin C:** Blood levels of at least 25 mcg/ml have been shown to decrease HIV activity as measured by P24 levels, syncytia formation and reverse transcriptase levels. Supplementation has been shown to increase antibody and complement levels in humans, increase the speed of phagocyte motility and influence interferon production. It is required by the thymus gland for production of T-lymphocytes. (12/89 and 12/90)

**Vitamin E:** This vitamin increases resistance to infection, increases antibody levels, stimulates B-lymphocytes and promotes T-4 activity and protects vitamins A, C and B-complex from destruction. It is a free radical scavenger and will protect all cell membranes and genetic material from damage from free radicals. (5/90)

These are the most well researched members of the vitamin family as far as the immune system is concerned. A good multi-vitamin and mineral supplement is a good base to start from. This will provide the full range of vitamins and minerals in amounts that can be considered safe. Each person is different in their requirements of vitamins. Consultation with a qualified professional prior to self administration of any substance is recommended.

(Dr. Brian A. Smith is a chiropractor and can be reached at 310.559.6584.) ▼

# PARASITIC INFECTION

by Brian A. Smith, DC

Parasitic infection is usually a sign of an underlying, larger problem. In the HIV+ individual it is the inability of the body to successfully repel or prevent infection because of immunological dysfunction.

## SYMPTOMS OF INFECTION

Parasitic infections may show a baffling array of symptoms, most of which are related to the gastrointestinal tract. The most commonly reported complaints are periods of diarrhea, alternating with periods of constipation. This may be accompanied by bloating, nausea, loss of appetite and other signs of an irritated bowel. Other symptoms not related to the intestinal tract may include night sweats, low tolerance to exercise, intermittent low-grade fevers, recurrent sore throats, low energy, more "allergic" type reactions and possibly behavioral changes.

## WHAT CAUSES THE INFECTION?

Causative agents include the well-known "amoeba," which is actually a class of parasites including *entamoeba histolytica*, the most common, and *endolimax nana*, which is frequently observed. The "flagellate" class includes *giardia lamblia* and *trichomonas hominis*. Other causative agents include *blastocystis hominis*, *microsporidium* and *cryptosporidium*.

There are three main routes of infection. The most startling is drinking contaminated water. In the US, *giardia* is very prevalent in our water supply. Travelling to certain parts of the world may expose one to greater amounts of parasites than our body is able to handle. Did you ever wonder why the people living in these areas don't get infected? Their body has developed the strength necessary to prevent it! The third way is by exposure in restaurants where food handlers may be carriers.

## DIAGNOSING AN INFECTION

Diagnosis usually includes a stool examination, either regular or purged. Unfortunately, these procedures do yield a high rate of false negatives. Also, different labs may have different parameters. Most do not report a large amount of *blastocystis hominis* if present, as this is considered a normal flora component. Rectal mucosal examination is usually quite reliable, as this surface becomes very delicate and easily bleeds and there is a lot of mucous secretion. A rectal mucus swab can be used to detect a parasitic infection. Other lab tests may include a sedimentation rate, which usually is increased and an eosino-

nophil (a type of white blood cell) count, which is also increased. Secretory IgA may also be measured to determine the ability of the intestinal tract to fight infection.

## TREATING INFECTION

Drug treatment is aimed at destroying the parasite. For amoebas, the most common drug is Flagyl (metronidazole). Side effects include nausea, headache, vomiting, insomnia and vertigo. For giardia, the drug used is Atabrine (quinacrine HCl). Frequent side effects are dizziness, headache, vomiting and diarrhea. Other drugs used include Humatin (paromycin), Furoxone (furazolidone) and Yodoxin (iodoquinol).

Non-drug therapy includes *Artemesia annus* (par qing), an oriental herb. Side effects may include bloating and gas. Also used in citrus (grapefruit) seed extract which is an anti-parasite agent. Since eradicating an infection may take three or four months, the treatment usually takes that long. This treatment is aimed at strengthening the body and killing the parasite.

## DIETARY CONSIDERATIONS

Dietary guidelines include avoiding irritants such as alcohol and caffeine. Avoiding sugar, dairy products and fruit has shown to be beneficial. Fruit is usually considered a "good" food, but in this case, it is best avoided in the early stages of treatment. The diet should consist of complex carbohydrates, such as rice and potatoes, cooked vegetables and lean meats.

All salad ingredients should be thoroughly washed. There are specific cleaners available for greens that may help. This means that you should probably avoid ordering salads at restaurants for the time being. All water consumed should be filtered; do not drink water straight from the tap!

Supportive measures include supplemental bowel flora (*acidophilus* and *bifidus*), vitamin A and folic acid. Normalization of neurological and visceral reflexes by your chiropractor would be beneficial as well.

(I would like to thank Karen Bilgral-Cohen, DC, for providing much of this information.)

*This article provides information only and should not be construed as a recommendation for a particular course of action. You should always consult with a knowledgeable health professional before beginning any treatment.*

(Dr. Brian A. Smith is a chiropractor and may be reached at 310.559.6584 if you have any questions.) ▼

## STRESS AND THE IMMUNE SYSTEM

by Brian A. Smith, DC

You may have heard the oft-repeated phrase that stress is detrimental to your health. Just what does this mean? Is there truth to this? Stress is necessary for life. Stress represents any changing environment. What we mean to say is negative stress will suppress your immune system.

Stress can be of many types. The most common are physical (accidents, strained muscles, spinal problems), emotional (fear, anxiety, depression), and chemical (drugs, pollution, food additives).

Negative stress has both direct and indirect effects on the immune system. These effects are cumulative and can be compounding. The effects are usually moderated through hormones and interleukins.

Recent research has shown that stress will directly impact the immune system in a negative way. Interleukins are regulatory molecules which help orchestrate the immune response. Initial response to an infection is an increase in Il-2 with a great cellular attack against the invader. Il-2 is required for helper cell proliferation. A great number of

receptors for Il-2 appear on lymphocytes allowing for this greatly increased response. According to Dr. Jonas Salk, as long as Il-2 levels are high, the cellular attack phase will continue and the person is at their most viral resistant phase. Negative stress has been shown to decrease Il-2 production and also decrease the number of Il-2 receptors on lymphocytes. Other direct effects include decreased interferons, decreased natural killer cell activity, and lower T-cell mitogenesis.

Indirectly, stress causes the release of ACTH from the pituitary gland in the brain which signals the adrenal glands to release anti-inflammatory hormones. These hormones will repress the lymph nodes and thymus and inhibit immune cell functions. Another pituitary hormone released, TTH, causes the thyroid gland to become overactive resulting in weight loss, nervousness, an increased demand for vitamins and minerals, and a protein deficit.

To counteract the effects of negative stress, you must eliminate the sources to the best of your ability. Clean up your diet; stay away from fried foods, alcohol, caffeine, or

overly refined foods. Avoid excessive use of drugs, illegal or prescription. Address any emotional problems in your life. Make sure you remain physically fit; exercise regularly and get enough rest. Chiropractic works with the nervous system to reduce the negative effects of stress. A nutritional approach would include B vitamins, the "anti-stress" vitamins. You may also wish to incorporate meditation, massage, biofeedback, acupuncture, or other stress reduction techniques into your life. Your health may depend on your ability to handle stress.

*(Brian A. Smith, DC, is a chiropractor who has worked with HIV+ individuals for over five years. Any questions you may have can be directed to him at 310.559.6584.)* ▼

**A**ll HIV-positive people need to have nutritional intervention to realize optimal health. Studies have shown nutrient deficiencies very early in the disease state. These nutrient deficiencies may lead to direct tissue damage, which is a primary cause of health problems.

Let's face facts: The body must become deranged in its biochemical pathways to allow disease to occur. HIV infection is not caused by a lack of AZT or ddI in the body. As the biochemical derangements are identified, it becomes possible to correct them.

This article reports on recent research in nutrition and preventative therapies as they apply to HIV.

### Vitamin abnormalities

In *Metabolic Brain Disease*, the correlation between brain lesions characteristic of Wernicke's encephalopathy and thiamine (vitamin B-1) deficiency is reported. Thiamine deficiency was found in 23 percent of AIDS patients. The authors recommend "that dietary thiamine supplementation be initiated in all newly diagnosed cases of AIDS or AIDS-related complex."

Vitamin B-12 abnormalities are reported in *European Journal of Haematology* and *Lancet*. The former reports patients with low vitamin B-12 levels showed lower hemoglobin, leukocytes, lymphocytes, CD4 lymphocytes and CD4/CD8 ratio than HIV-positive people with normal serum B-12 levels.

It was further found that absorption of B-12 may be impaired and that serum proteins that "carry" B-12 may be decreased as well. The *Lancet* article describes a myelopathy (non-specific functional disturbances or pathological changes of the spinal cord) that resembles a disorder related to vitamin B-12 metabolism, subacute combined degeneration of the cord.

In this study no correlation between serum B-12, which was normal in all subjects, and disease progression was noted.

# Nutrients provide armor against infections

By BRIAN A. SMITH, D.C.

This means some factor affecting the usage of B-12 by the body is involved or HIV-positive people require higher amounts of B-12.

### Biochemical deficiencies

Widespread vitamin B-6 deficiencies in asymptomatic HIV-positive individuals have been reported in *Journal of Acquired Immune Deficiency Syndromes*. Many of these B-6 deficient subjects consumed three to seven times the recommended daily allowance of B-6, yet two-thirds of them were biochemically deficient. B-6 is required for assimilation of dietary protein and immune function. Deficiency is associated with atrophy of the thymus and spleen.

Glutathione and the related amino acid cysteine were reported on in *AIDS Research and Human Retroviruses* and *Cellular Immunology*. The former study demonstrated significantly lower glutathione levels in CD4 and CD8 cells in HIV-positive people. "Intracellular glutathione plays an important role in the regulation of human immunodeficiency virus transcription and replication in vitro, through modulation of signal transduction by inflammatory cytokines."

Inflammatory cytokines—tumor necrosis factor, interleukin-1 and interleukin-6—stimulate HIV transcription and replication. This stimulation is enhanced when cells are glutathione de-

pleted. The low glutathione levels are not due to direct infection by HIV, since only a small percentage of CD4 cells are infected.

It is thought that HIV induces production of cytokines which deplete glutathione. Glutathione is important for T-cell proliferation, T- and B-cell differentiation, cytotoxic T-cell activation, NK cell activity and cell protection against oxidants. These depleted glutathione levels can be replenished with use of N-acetylcysteine (NAC).

In *Cellular Immunology* it is reported that DNA synthesis in T-cells is inhibited in the absence of cysteine, one of the amino acid constituents of glutathione. Intracellular glutathione levels are strongly increased by adding cysteine.

### Vitamins and viral inhibition

A study published in *American Journal of Clinical Nutrition* reported the effects of vitamin C, glutathione and NAC on viral inhibition.

In vitro testing demonstrated 94-percent reduction of HIV reverse transcriptase by vitamin C, 60-percent reduction by NAC, and no inhibitory effects from glutathione.

Combination therapy of NAC and vitamin C showed a "greatly increased" effect. NAC reduced the extracellular level of p24 by approximately tenfold. NAC may have directly reacted with the p24, rather than suppress its formation.

The effects of vitamin C were found to be not related to the acidity of the environment, as skeptics earlier claimed. Suppression by vitamin C required continuous supplementation. It was further stated that approximately 12 grams per day would be required by healthy subjects to achieve the lower levels required for viral suppression. The amount may be as high as 20 grams per day. Glutathione did not exhibit any beneficial effects, probably due to the fact it needs to be degraded before it can enter a cell.

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## Nutrient intervention becomes paramount to extending a person's life and reducing the occurrence of opportunistic infections.

# Nutrition

From Page 5

## Carnitine levels and HIV

In a 1992 book titled *AIDS* appears a study correlating a deficiency of L-carnitine, an amino acid, with alterations in energy supply.

Carnitine is required for transport of fatty acids into the mitochondria (power house) of the cell to be used for energy production. Alterations in serum carnitine levels may lead to varying degrees of limited physical exercise, muscle weakness, myopathy and abnormalities of liver and fat metabolism. Low levels may

be attributable to use of drugs, such as AZT, gastrointestinal infections or decreased appetite.

In this study 72 percent of the subjects had low serum levels of carnitine. All these subjects were on AZT. In another study 37 percent of the subjects had elevated carnitine levels and AZT was not used.

Of particular relevance is the fact that carnitine appears to be related to immunocompetence. Treatment with L-carnitine increased lymphocyte mitogenesis in patients with post-operative infections as reported in one published study.

Nutrient intervention becomes paramount to extending a person's life and reducing the occurrence of opportunistic infections. Less reliance on drugs as treat-

ment will be beneficial to everyone (except drug companies) as there will be a reduction in the debilitating effects of drugs, less mutations of infectious agents to drug-resistant forms and less of a toxic load on the body to clean up. +

*The purpose of this article is to provide information only and should not be construed as a recommendation of a course of action.*

*Dr. Brian A. Smith is a chiropractic doctor utilizing nutrition extensively in his practice. For more information, call (310) 559-6584.*



# Monitor your diet for warnings of protein deficiency

By BRIAN A. SMITH

**T**he amount of protein in your body—or lean body mass—is an excellent indicator of your current and projected health status.

Much research in 1993 appeared to focus on the importance of maintaining lean body mass. I have been employing these concepts in my practice to the benefit of my patients for years.

Clinical research conducted in my practice since the early 1980s has demonstrated the benefits to be realized by maintenance of lean body mass. Protein requirements are increased in any infectious condition and there are some preliminary studies which demonstrate that lean body mass values are a better indicator of future health than are CD4 (T4) lymphocyte counts.

These two indicators are intricately linked. In the *New England Journal of Medicine* it was stated that the most common worldwide cause of T-cell immunodeficiency is protein-calorie malnutrition. The T-cells that remain have functional defects which render them less capable of fighting infection.

## Changes not always apparent

Unfortunately for many, the benefits of proper nutrition become clouded over time.

For example, I have watched a patient who followed a strict protocol for six years maintain a very good level of health. He exercised regularly, had a rewarding career, was active in the community and traveled a lot.

After six years of being healthy, this patient started to take his diet for granted. My first clue was his vague complaints of fatigue. The perception my patient had of the importance of his dietary protocol had shifted. He started losing lean body mass even as his weight increased. He reduced

his calorie intake to try to lose weight and in doing so, further reduced his protein consumption and took dietary supplements sporadically.

His dietary changes became evident in lab values after about two months: His T4 cells started to decline faster and his T4:T8 ratio worsened. After five more months he realized the connection but it was already too late to reverse the damage that had been done. Many clinicians may think the decline in health was not related to the dietary changes, but I have seen this occur repeatedly over the years.

## The importance of adequate intake of protein in an immune-challenged individual can not be overestimated.

### Impact of protein deficiency

Last year the *Journal of Nutrition* reported that protein deficiency in rats was directly related to decreased antioxidative enzyme activity. Research has shown that as free radical levels increase, HIV becomes more active. As levels of protein intake decrease below 20 percent, free radical levels increase. Antioxidants decrease free radical damage. Many people are aware of antioxidants as being vitamins A, C and E.

In 1983 *The American Journal of Public Health* published a study in which the similarities between protein-calorie malnutrition and the symptoms associated with full-blown AIDS were reviewed. Both populations experience multiple opportunistic infections, have increased incidence of Kaposi's sarcoma and diffuse undifferentiated B-cell lymphomas.

In *Nutrition and Cancer* in 1985 the correlation between malnutrition and a decrease in the total number of T-lymphocytes was reported. A higher incidence of

PCP is also found in malnourished patients.

### Adequate protein is critical

The importance of adequate intake of protein in an immune-challenged individual can not be overestimated.

Unfortunately, loss of protein body stores can be difficult to detect until the loss is significant. Even with maintenance of weight or with weight gain, you can still be losing lean body mass. When you lose weight and you increase your caloric intake by eating high-calorie items such as milk shakes and ice cream you are increasing your fat levels, and your weight, and this lulls you into a false sense of security.

Obesity—meaning having a higher percentage of body fat rather than being overweight—will decrease your immune function just as low levels of protein will. The main sources of protein are meat, eggs and cheeses. All immune-challenged people should be getting at least two servings of protein foods per day. Your ideal body weight determines the amount of protein you need.

Your nutritional status reflects your past habits, shows your current status and gives a good indication of your future. Don't you think you should pay attention to it? Changes in your diet require the supervision of someone knowledgeable in HIV management.

Don't fool around with supplements. Get expert advice. +

*The purpose of this article is to provide information only and should not be construed as a recommendation of a course of action.*

*Dr. Brian A. Smith, (310) 559-6584, is a chiropractic doctor utilizing nutrition extensively in his practice and is available for lectures.*

# Proteins are vital to maintain health

By BRIAN A. SMITH, D.C.

**W**hen it comes to managing HIV infection, the importance of adequate dietary protein of a high quality can not be emphasized enough.

Protein, which is made of strings of amino acids linked by chemical bonds, is required by the body to produce antibodies, cell walls, immunoglobulins and interferons. In humans, amino acids are present in certain ratios.

Amino acids that cannot be made by the body must be included in the diet; these are the essential amino acids. Other amino acids, which can be made by the body, are nonessential.

## Protein Efficiency Ratio

Proteins are rated according to the ratio of the essential amino acids and their ability to be absorbed and utilized by the body. This measurement is called the Protein Efficiency Ratio (PER).

You may see reference to a product's PER on the side of packages for some weight-gain supplements. In our diet the foods that have high PER ratings, and therefore are a higher quality protein source, are eggs, meats, poultry and certain dairy products. Vegetables, grains, cereals and fruits contain lower quality proteins.

Through the combination of certain low quality proteins, one can obtain a high-quality intake—for instance, pinto beans and rice. Unfortunately, some combinations contain very high amounts of carbohydrates, which can be immunosuppressive over an extended period of time.

As recently reported in the *Journal of Nutrition*, the degree of protein deficiency in a diet directly affects the antioxidant enzyme systems in our body. These systems are depressed and include superoxide dismutase (SOD)

and glutathione peroxidase (GSH).

## Impact of glutathione deficiency

Much research has centered around the depressed levels of glutathione found in people with HIV and the ability of NAC to restore these levels. Glutathione is required to transport amino acids into the cell. Without adequate amounts of glutathione, certain immunological chemical pathways are impeded. Stimulation of the immune defenses is impaired, resulting in an increased susceptibility to infection.

As glutathione levels drop, the ability of amino acids to enter the cell diminishes. With fewer amino acids entering the cell, there is less "working material" for the cell to maintain the cell wall, make immunoglobulins and interferons, and replicate. In theory, this lack of amino acid uptake could lead to the increased serum protein levels, which is commonly seen.

The *Journal of Nutrition* suggests that protein energy malnutrition (PEM) is an independent source of disease in people with HIV. Body cell mass is usually depleted out of proportion to losses in body weight or body fat. Further, death occurs when the body weight approaches 66 percent of ideal body weight and is not dependent on the cause of wasting.

## Increasing lean body mass

The development of PEM may be caused by several mechanisms. Food intake may change as a result of oral or esophageal lesions as well as central nervous system problems. Chemicals released in the body that suppress the appetite are found in cases of widespread infection in the body and in some cases of malabsorption. Damage to the small intestine by a protozoal infection can result in malabsorption.

Even with adequate nutrition protein wasting and metabolism derangements are seen with severe inflammatory disorders.

Lean body mass has been shown to increase through oral feeding in patients without malabsorption. Both skeletal muscle and organ mass rise, sometimes despite the persistence of widespread infections.

Many formulas to help restore lean body mass are available. Better ones have higher than usual amounts of the amino acid glutamine, low levels of fats (triglycerides) and low levels of simple sugars (sucrose).

## Protein deprivation

The effects of protein energy malnutrition on the immune system have been documented for years. The *Journal of Pediatric Gastroenterology and Nutrition* reported that the lymph system is particularly hard hit in protein deprivation. The lymph nodes and the spleen waste away and the immune tissues associated with the intestinal tract is affected as well. In the gut, the chemical Immunoglobulin A (IgA) is responsible for fighting off organisms and preventing their entrance into the blood system. It has been shown that PEM leads to low levels of IgA in the gut and associated loss of protection.

Maintaining lean body mass is the most important goal of any nutritional program. By putting on fat, you can lose lean body mass even while maintaining your weight. Your lab work should be checked for early signs of protein wasting. Your lean body mass needs to be measured regularly.

Complemented by the correct nutritional program, regular exercise will increase your appetite and your ability to maintain and gain lean body mass—and stay healthy. Ask any body builder! ♦

*Brian A. Smith, D.C., has utilized nutritional therapeutics in the management of HIV disease since beginning practice in 1987. He can be reached at*

*\_\_\_\_\_. The purpose of this article is to provide information only and should not be construed as a recommendation of a course of action for any particular individual.*

## Many formulas help restore lean body mass.



# Consult only experts on HIV care and good nutrition --or become an expert yourself

By DR. BRIAN SMITH

"Why is it important to obtain professional nutritional guidance?"  
 "If supplements are natural, they can't hurt me. They're not drugs."  
 "I do get advice. The person at the store told me . . ."  
 "Well, my friend is on this program so I just copied it."  
 "I was feeling worse so I just took more of everything."

**A**s a doctor treating people with HIV, these are some of the most common statements about nutrition I hear. Let's clear up some very basic misunderstandings.

First, the field of nutrition—the study of food substances and their impact on the body—is a biological science and it takes a specialized "scientist" to understand and apply sound nutritional principles.

Do you honestly believe that someone who sells nutritional products has the same level of understanding, education and ability as a person with a formal university education in the subject? If you do, then I suggest you ask them what drugs to take as well because they must have as much knowledge about drugs as a medical doctor.

If you are to trust an educated professional with drug matters, I suggest you apply the same level of scrutiny to your choice of professionals regarding nutritional therapeutics. In most cases it is much more difficult to correctly use nutritional therapeutics in comparison to drug therapies.

Drug therapies operate independently from your body while nutritional therapeutics are dependent on your body. What works for you may not work for someone else. In drug therapy the standard protocol for everyone may be 500 mg of Drug X per day. Determining that dosage is much easier than determining your daily requirement of different vitamins and minerals and making recommendations accordingly.

## Natural products can be harmful

"Natural" and "safe" are not synonymous. Arsenic is natural, but not safe.

"But what about vitamins and minerals?" you may ask. "Those

are normally found in the body. They must be safe."

Do you know that where death by injection is legal, the injection is of potassium chloride, the salt substitute? Taken in high enough doses, potassium chloride is lethal.

"Well, the person giving me advice reads everything," you say. Do they have a formal education in anatomy and physiology, as well as biochemistry and nutrition? If not, they will not be able to grasp the concepts necessary

to apply, and to question the information obtained from their reading.

The vast majority of nutritional information is to be found in research journals, not published books. Most books are based on research that is anywhere from 10 to 50 years old. This research may still be of extreme value, it is just not current enough to be applied successfully in HIV management.

## Tempting disaster

"I just take more when I'm not feeling well."

This cavalier attitude can have disastrous effects. In *Nutrition Research* (1993; 13: S3-S18) it is reported that zinc excess will decrease lymphocyte function and suppress the antibody response. At 150 mg, doses of zinc will suppress the function of neutrophils, killer cells and lymphocytes. Similarly, too much vitamin E can have an immunosuppressive effect.

Are either of the two supplements bad? No—the beneficial effects of zinc are elaborated in an review article in *Journal of Internal Medicine* (1992; 231: 463-469). Zinc increases interleukin 4 which, in turn, enhances T4 cell proliferation and thus diminish the immune defects in HIV infection. The May 1990 issue of the *Being Alive* newsletter has a good article on the beneficial effects of vitamin E.

It is imperative that you obtain sound nutritional guidance from a professional that is well acquainted with all aspects of HIV care.

Late-breaking nutrition news: A theory published in the August issue of the *Journal of Medicinal Chemistry* may explain the varying periods of "latency" in people with HIV. The theory states the virus uses a cell's supply of selenium. When the supply is exhausted, the virus will break out in search for a new source. +

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*Dr. Brian A. Smith, (310) 559-6584, is a chiropractic doctor with extensive knowledge in the treatment of HIV disease.*

## NUTRITION

### —THE STUDY OF FOOD

### SUBSTANCES AND THEIR IMPACT

### ON THE BODY—IS A BIOLOGI-

### CAL SCIENCE AND IT TAKES A

### SPECIALIZED "SCIENTIST" TO

### UNDERSTAND AND APPLY SOUND

### NUTRITIONAL PRINCIPLES.

By DR. BRIAN A. SMITH, D.C.

**S**everal years ago a substance called vitamin B-15 was making news in nutrition circles.

Also known as pangamic acid or calcium pangamate, vitamin B-15 was eventually determined not to be a vitamin. The Food and Drug Administration ordered it off the market.

Dimethylglycine (DMG), an amino acid that is predominantly found in grains, is a chemical analogue of this vitamin. Though not chemically identical, DMG and vitamin B-15 have a similar chemical action. In fact DMG is a part of pangamic acid.

DMG belongs to a family of nutrients that includes choline, betaine (trimethylglycine), sarcosine (methylglycine) and glycine. These compounds supply the body with an essential biochemical group that allows conversions of substances in the body's intricate biochemical pathways.

#### DMG and the immune system

The body's immune response is affected by many factors including diet, age, digestive ability, drugs and infections. In two research projects, the relationship of DMG to immune function was examined.

In the first project, conducted at the Medical University of South Carolina and presented in the *Journal of Infectious Diseases*, subjects used 120mg of DMG for eight weeks. Researchers reported an average of a four-fold increase in antibody production in the body when exposed to pneumovax-SSS, and a "significant" increase when exposed to streptokinase-streptodornase antigen. A third antigen, concanavalin A, showed little increase.

This antibody response is accomplished by B cells: one of three major types of lymphocytes produced by the body. T cells, which are lymphocytes that identify and reject foreign matter, were examined by a second part of the University of South Carolina study.

Normal subjects using 120mg of DMG saw an increase in T-cell activity of more than 50 percent. Even more important was the fact that subjects with a less than normal lymphocyte activity (in this case, due to sickle cell anemia or diabetes) showed a two- to three-fold increase in lymphocyte response. As these patients are more susceptible to infections, DMG may be an especially important nutrient.

A second DMG study, conducted at Clemson University, showed similar results. Antibody production to typhoid and influenza antigen in rabbits increased three- to five-fold. T cell

## NUTRITION WATCH

# EXAMINING DMG AND IMMUNITY



populations were also increased. Further, the study demonstrated a doubling of the interferon production of T cells.

#### Studied for decades

Other effects of DMG have been studied for more than 30 years.

The earliest interest in this nutrient stems from its effect on athletes. In 1965 it was established that DMG increases the oxygen utilization within the cell. This alone will increase the amount of exercise one can perform.

DMG also is useful for people traveling to higher elevations. Research at the USC School of Medicine in 1979 showed that the amount of lactic acid buildup in muscles after exercise is decreased with the use of DMG. Lactic acid is thought to be one of the factors in muscular soreness after exercise.

Blood sugar levels are increased by using DMG. DMG causes the adrenal glands to secrete more corticosteroids which increase blood sugar levels, as well as affect protein and fat metabolism. It has

been found to enhance liver function and to lower cholesterol levels by increasing synthesis and secretion of bile. Some skin conditions, including psoriasis and eczema, have benefited from DMG supplementation. It also acts as an antioxidant preventing the actions of free radicals which may damage the cells of the immune system.

#### Immune-boosting nutrient

The immune-enhancing effect of DMG is of particular importance for people with HIV.

Doses of the equivalent of 130g (130,000mg) have been shown to be safe with no side effects. Tablets are available in varying dosages from 50mg to 125mg. Daily intake should be at least 100mg for immune-stimulatory effects.

In my experience, the tablets are more effective when allowed to dissolve under the tongue. When swallowed, the "first stop" is the liver, where a large percentage will be used up. The cost for this nutrient is nominal, approximately \$25 for a one-month supply, depending on the amount taken. +

Dr. Brian A. Smith, D.C.,

is a chiropractic doctor utilizing nutrition extensively in his practice.

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**DMG BOOSTS OXYGEN UTILIZATION WITHIN THE CELL, INCREASING THE AMOUNT OF EXERCISE ONE CAN PERFORM.**

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**P**eople with HIV should be aware that diarrhea can be caused by many things, including prescription and over-the-counter drugs, stress, opportunistic infections, certain foods, and high doses of some vitamins and minerals.

If the identifying cause is found, diarrhea can be managed and stopped. Through proper nutritional habits, you may be able to avoid taking another drug to combat diarrhea, or at least lessen the dose.

Modifying your diet can be very successful in helping to lessen the severity of diarrhea and counteract its effects. Here are some suggestions:

### Fluids

Drink as many fluids as you can, and as often as possible. Your intake should be at least two quarts per day—sometimes double that amount if you are experiencing large amounts of loss through the bowels.

Drink diluted fruit juices, broth or water. Full-strength juice may worsen your diarrhea. Also avoid prune juice!

Water must be filtered via reverse osmosis with a silver impregnated anti-bacterial element or boiled. You do not want to expose your intestinal tract to cryptosporidium, which has been found in many water supplies, including L.A.'s.

Do not have any caffeine! This will increase diarrhea. Do not have any soda, black or green tea, or coffee.

Ensure, Boost, Nutren, Resource, etc. may all increase diarrhea. Avoid dairy products as well. Rice milk is a good substitute. Besides not being dairy, rice milk tends to be constipating. Horchata is a rice drink available in most markets. This is usually too high in sugar which can aggravate diarrhea.

For people on weight-gain formulas, make sure the source of calories is not lactalbumin or casein, which are dairy sources.

Avoid alcohol, which will also aggravate diarrhea.

### Fiber

Much confusion exists around fiber and its use in diarrhea.

There are two types of fiber: soluble and insoluble. Soluble fiber, which slows down the intestines and will hold fluids, is good for diarrhea. Foods high in soluble fiber include oatmeal, white bread—this is the only time you will hear me recommend white bread!—white rice, bananas, pasta, barley, oat bran, carrots and peeled fruits such as apples, pears, peaches, apricots, mangos, and peeled potatoes. You should have at least three servings per day from this group.

## NUTRITION WATCH

# Diet & diarrhea

By DR. BRIAN A. SMITH, D.C..

Insoluble fiber is a bulking agent and speeds up the intestines. Foods in this category must be avoided.

Food that are high in insoluble fiber include whole wheat and other high-fiber grain products like breads, muffins, etc. Granola, most cold bran type cereals, corn meal and wheat germ must be avoided.

Many vegetables are high in insoluble fibers including the legumes (peas, lentils, etc.), corn, broccoli, peppers, cauliflower, cabbage, brussel sprouts, turnips, squashes, cucumbers, onions and leeks. These may cause cramping and gas.

The skin of fruits have too much insoluble fiber and raspberries and blueberries tend to be difficult to absorb. (Strawberries, however, seem to be fine.)

Avoid all nuts and seeds as they will increase diarrhea. Salads will increase insoluble fiber, so avoid them while you have diarrhea.

### Fat

Because fat is hard to digest, eat as little of it as possible.

Use the lean cuts of red meats and remove the skin from poultry before cooking. Meat and poultry should be cooked on a rack to allow fat to drain off. Avoid bacon, sausage and luncheon meats.

Lean fish like cod, red snapper and tuna are fine if you don't cook them in oil or drown them in a butter or cream sauce. Canned tuna packed in water is fine.

Do not use margarine at all. Try to avoid butter as much as possible. Avoid mayonnaise, salad dressings, cream and cream sauces as well.

### Nutritional supplements

Sodium, potassium, selenium and other minerals may become depleted with diarrhea, and need to be replenished.

Diluted vegetable juices are a great way of replenishing minerals. Usually a high quality mineral supplement can be tolerated and will be absorbed quite well. High doses of magnesium may lead to increased diarrhea so make sure you so not take a separate magnesium pill.

Vitamins also need to be replenished. If you are experiencing diarrhea, do not start high doses of Vitamin C. If you take 5,000 mg or more, you may want to cut back for a while. Even better would be to switch to an esterified form of the vitamin, such as Ester-C.

Long-term diarrhea will cause a loss of the normal intestinal lining. To correct this, large amounts of folic acid and the amino acid glutamine are necessary. With diarrhea,

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## TYPICAL DAY'S MENU

### BREAKFAST

OATMEAL WITH ADDED BANANA AND RICE MILK, DILUTED FRUIT JUICE AND WHITE TOAST

### SNACK

PEELED APPLE

### LUNCH

BARLEY, RICE AND VEGETABLE SOUP (THESE VEGETABLES ARE SO OVER-COOKED, AND SO FEW, THEY SHOULD POSE NO PROBLEM!), WHITE BREAD, APPLE SAUCE

### SNACK

PEELED PEAR

### SUPPER

SKINLESS BROILED CHICKEN BREAST, CARROTS AND MASHED POTATOES (NO BUTTER!) WITH AN OATMEAL MUFFIN FOR DESSERT



*From Page 6*

malabsorption is common and your multivitamin should be completely water-soluble. This allows for the fat-soluble vitamins, D, E, A, and K, to be better absorbed.

If you are taking any type of blue-green algae formula, discontinue it immediately. Though isolated, there have been reports in research journals of algae-induced diarrhea.

There are herbal approaches available that will help to rid the intestinal track of parasites, candida and other infectious agents. If this is the cause of diarrhea you may wish to consult with someone knowledgeable about the available approaches.

Because diarrhea can be caused by automatic nervous system neuropathy, there are some therapies such as acupuncture and neurovascular dynamics that may help. These therapies will also lower the amount of stress in your body. ✚

*This information is provided for educational purposes only and should not be construed as a recommendation of a specific course of action for any individual. As always, consult a properly educated professional for advice.*

*Dr. Brian A. Smith, a chiropractic doctor working with HIV-positive individuals from a holistic approach, can be reached at (310) 559-6584*

# Silver

## may be useful against HIV

By DR. BRIAN A. SMITH, D.C..

**S**ilver colloids have recently begun to be marketed by a few companies. You may have seen them at health-food stores.

Although the use of silver colloids against HIV has yet to be explored to any great extent, silver compounds were successfully used as antibiotics in the early part of this century. Shown to be effective against candida albicans, silver may be a treatment for thrush and intestinal candidiasis.

Silver compounds have also been shown effective against pseudomonas aeruginosa, which can cause pneumonia, gonorrhea, staphylococcus and streptococcus (strep throat).

A patient of mine who reported a history of plantar warts on his feet had no luck with the therapies he had tried. After applying colloidal silver to the warts for one week, they were gone.

### How silver acts in the body

Silver apparently attaches itself to the wall of single-celled organisms such as bacteria, yeast and fungi, rendering the wall of that organism weak and susceptible to rupture. Silver may also stimulate bacteria—"eating" cells (phagocytes) into action.

Conflicting information about the intestinal absorption of silver exists. One manufacturer claims that, as colloids, the particles are unlikely to cross the intestinal wall and reach the bloodstream. However, this company also states that silver taken orally tends to be found in phagocytic cells in the liver and elsewhere, which indicates intestinal absorption.

Although the most beneficial form of silver is a subject for debate, some agreement about the compound exists.

- > In the dosages necessary to treat infection, silver appears to be non-toxic
- > No studies exist on the safety of long-term intake of silver.
- > Silver is effective in killing organisms in concentrations from

three to 10 parts per million.

> The dosage for therapy is in micrograms (one microgram equals one millionth of a gram).

### Two common forms

The manufacturers of the two most common forms of silver—a silver colloid-protein molecule form and an electrocolloidal form—each contend that their product is superior to the other.

The electrocolloidal form of silver has a golden-yellow color. The protein molecule form of silver colloid is darker, approaching brown. These products are liquid and can be used as mouth rinses for thrush or topically applied for skin conditions.

To many people, including myself, there is a concern with the safety of ingesting silver and other heavy metals.

Metals will deplete the body's antioxidants; that effect can be counteracted by adding antioxidants. Also, large doses of vitamin C have been shown to reduce heavy metal accumulation in tissues.

Oral doses of silver usually start at one to three teaspoons per day for one to six days, then decreasing to one-half to two teaspoons. As silver can inactivate the protein digesting enzymes, it would be prudent to take it on an empty stomach. The maximum time limit for oral administration that I would suggest would be 10 days for any particular infection.

The costs vary widely, from a low of about \$21 to a high of \$38 for four ounces. (There are about 6 teaspoons in an ounce).

### Clearance from the body

Silver is cleared from the body slowly through the formation of bile. When clearance of silver falls behind intake, argyria—a condition of silver deposition in the tissues consisting of an ashen gray discoloration visible in the skin and eyes—can re-

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## Silver

From Page 6

sult. Argyria is not associated with any known disease or loss of function.

A qualified health professional can monitor your blood levels of silver. The lab test costs about \$45.

As a member of the Scientific Advisory Board of SEARCH Alliance, I am gathering information from people who have used colloidal silver for treatment of any condition.

Please call me at (703) 595-1111 and let me know what your experience has been. ✚

*The information in this article is provided for educational purposes only and should not be construed as a course of treatment for any individual.*

*Dr. Brian A. Smith, D.C., is a chiropractic doctor specializing in the care of HIV-positive individuals.*

# Chiropractic care may improve immune function

By DR. BRIAN A. SMITH, D.C.

**T**he basis of chiropractic practice is the effect of the nervous system on every cell in our body. More than 65 years ago, a chiropractic text stated that immunity was dependent upon the perfect transmission of mental impulses over the nervous system. Medical "science" scoffed at the idea of any connection between the nervous and immune systems. Neuroimmunologists have spent a great amount of time over the last three decades tracing the connections between the two systems.

## Changes affect nerves

A main tenet of chiropractic practice is that a faulty relationship between two spinal vertebrae, called a chiropractic subluxation, will cause a change in the information transmitted over the nerves that enter and exit the spinal cord at that level.

The spinal cord is housed within the spinal column and can be loosely considered as the "highway" over which information to and from the brain travels. Information enters and exits that "highway" through 31 paired "off-ramps" called the spinal nerves. These spinal nerves travel in between the moveable spinal vertebra.

When a problem in the spine exists, the function of the nerves at that level is affected. This change of function may manifest in many different ways.

Physical changes are the easiest ones to measure. Differences in tightness and function of muscles have been shown, as has a difference in the amount of sweat secreted by sweat glands. There are also noticeable changes in the sensitivity of the skin.

## Malfunctioning organs

Most people are familiar with someone who has had whiplash and complains of pain in the arm or someone who has hurt their back and now the pain travels down their leg. This is due to nerve irritation. If we consider our internal organs, the same thing can happen but instead of "pain" in the liver, we have a liver that doesn't function quite right.

The immune system is constantly sending a stream of information into the nervous system over those spinal nerves. The large amount of information transmitted during an infection can cause a "spill over" to adjacent nerves going to spinal muscles. This causes those muscles to tighten up and prevent the vertebra from moving correctly.

This subluxation causes more errors in the information transmitted over the nerves and now we have a spiral effect: subluxation causes aberrant nerve information causes tighter muscles causes less vertebra movement, that is greater subluxation, causing aberrant nerve information.

The chiropractic adjustment serves to correct the abnormal position or motion of the vertebra, thereby reducing the amount of nerve interference. Keeping the nervous system clear and able to communicate with the body allows us to respond quicker and more effectively to an infection. It also has a beneficial stress-relieving effect. Anything you can do to reduce stress in your life, including physical stress such as tight muscles, will help your immune system.

## Body talk

Many of the nervous system's chemical messengers also "talk" directly to the immune system. It has been shown that the amounts of these messengers are changed when there is a subluxation. The changes in the amounts are significant enough to suppress immune function.

Research has shown a definite correlation between the chiropractic adjustment and improved immune function. One nervous system chemical that affects the proliferation of T-lymphocytes, substance P, has been shown to be increased after a chiropractic adjustment. Another study showed a consistent increase in T-4 lymphocytes in patients who have regular chiropractic care. Studies are continuing to determine what is the optimum treatment frequency. This is usually determined by patient response, as each body responds differently to infection.

A body cannot function properly if the nervous system is "out of whack." Do yourself and your immune system a favor and get checked out by a chiropractic doctor. +

*Brian A. Smith, D.C., has a West Hollywood chiropractic practice. Information: (213) 656-2652.*

**A** patient entered my office in late February in a somber mood. He said he read one of my articles in *POSITIVE LIVING* and hoped that I could help him.

This patient was a "twenty-something" man who said he had been HIV-positive for at least eight years. His first T4 lymphocyte count in 1993 was below 200; when I saw him in February, it was below 50. Until last year, he said he had been in quite good health.

#### **A series of infections**

In the first half of 1994, he said, he came down with shingles and was successfully treated by his medical doctor. In July he began experiencing severe bouts of diarrhea and was diagnosed with a cryptosporidium infection.

Due to concerns about side effects, he had refused the available antiviral drugs. Ingesting a substance with a known effect of bone-marrow suppression, leading to low white and red blood counts, didn't make sense to him. Why suppress the immune system with drugs?

When I first examined him in February, this 5'8" patient weighed about 120 pounds, down from 135-140 pounds. Since July, he had lost about 15 percent of his body weight, which is very significant. In addition to the lost weight and complaints related to the diarrhea, he also suffered from loss of sleep and said he felt "run down."

He had gone through the usual treatment regimens for cryptosporidium including the antiparasitic agents Humatin (paromomycin) and atovaquone. Opium tincture, sandostatin and immodium were of little use. With little success, he had even tried the allicin (garlic) protocol being currently researched at AIDS ReSEARCH Alliance.

#### **Psychological effect of illness**

The psychological impact of the visual changes of such a weight loss is immense. Loose clothes and noticeable changes in body weight, especially the face, serve as a constant reminder of illness that can dampen even the hardest of optimists.

The resultant lower energy levels from a combination of the physical and psychological changes further serves to validate the illness and may lead to depression and, in the extreme, contemplation of suicide. This patient was able to barely maintain his demanding full-time job.

I found several notable things when I examined him. The

# **Variety of approaches put patient with HIV on the road to better health**

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By **BRIAN A. SMITH, D.C.**

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most likely sight of infection was in the lower part of the small intestine and the beginning of the large intestine, as determined using a reflex therapy called Neuro-Vascular Dynamics (NVD). His low back was tight and he had a chiropractic subluxation at the L1-L2 level which is not surprising as the nerve to the large intestine comes for this level.

I treated him utilizing a combination of soft tissue massage and chiropractic adjusting. The reflex system NVD was utilized to normalize blood flow to the intestines. He was instructed on the foods to avoid and placed on colloidal silver for a 10-day trial period. (See the February edition of *POSITIVE LIVING* for information on colloidal silver.)

#### **Improvements seen quickly**

When he came back for his next visit, he had visibly gained weight and was in much better spirits. His diarrhea had decreased by 90 percent within one week and he had gained 12 pounds. He still had a tight low back which was expected as the infection was still causing excessive nerve stimulation. He

was treated again using NVD, massage and adjusting. A second round of colloidal silver was recommended.

Two weeks later he weighed more than 140 pounds: a 20-pound gain in one month! His diarrhea had been reduced by 80 percent and he felt he had more energy now than in the past eight months. He was still showing signs of intestinal abnormalities and some low back symptoms. After months of diarrhea, the intestinal lining will be quite damaged and the next step will be to rebuild the lining.

His clothes fit normally and the gaunt look is gone. His friends constantly remark on his improvement. His outlook on life has soared and his energy level is great.

By telling you about this patient, I hope I have helped to make it clearer how utilizing different approaches can lead to better health. ✚

*Dr. Brian A. Smith, a chiropractic doctor who has specialized in the treatment of immune-suppressed individuals for more than eight years, teaches in the HIV Nurse Clinician Program at USC School of Medicine and is a board member of AIDS ReSEARCH Alliance. He is in private practice in West Hollywood and can be reached at (213) 656-2652. He welcomes questions from readers and suggestions for articles.*

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**Rx: Neuro-Vascular Dynamics, massage, chiropractic adjusting and colloidal silver**

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**May 1995 POSITIVE LIVING**



**M**any people with HIV use N-acetylcysteine (NAC) without understanding it and how its use affects the immune system.

#### What is NAC?

Cysteine is one of the three amino acids making up glutathione, a molecule important in immune function. Cysteine is required for the transport of other amino acids into cells so chemicals such as interferons and antibodies can be made. It has been found to be severely deficient in people who are HIV-positive.

More than six years ago, NAC stimulated interest as a possible treatment for people with immune suppression. In people who are HIV-positive, glutathione levels are decreased by an average of 30 percent in the blood and 60 percent in lung tissue. It is known that supplementation with NAC will cause glutathione levels to rise.

In early 1991, Dr. Alton Meister of Cornell University Medical College reported the spread of the virus was reduced up to 90 percent by using NAC. Since then, numerous studies have shown promising results for NAC.

When used in combination with Interleukin-2 (IL-2), use of NAC resulted in markedly enhanced immune cell proliferation

#### NUTRITION WATCH

# NAC:

## How it can help your immune system

By BRIAN A. SMITH, D.C.

of L-cysteine. In my practice, I have utilized both forms.

In patients who are not on any antiviral, I use NAC. L-cysteine is used because it will break down mucus and is beneficial in cases of sinusitis, lung congestion and other upper respiratory infections or inflammations. NAC has the same effect on mucus, but is more costly. Knowing that the beneficial immune effects of NAC are due to the increased cysteine levels, there appears no reason why L-cysteine could not be used in place of NAC.

and function. One NAC study demonstrated a significant T4 cell increase. Another demonstrated that HIV replicates easier when glutathione levels are low and that NAC replenishes glutathione levels. Low cysteine levels also appear to correlate with elevated TNF (tumor necrosis factor) and B-2-M (beta-2-microglobulin) levels, both of which signify an increase in viral activity.

#### Two formulations available

Cysteine is available in two forms: L-cysteine and N-acetyl-cysteine.

A history of research has been performed on the NAC form. To date, no research has been done evaluating the immune effects

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## How NAC helps

From Page 9

The doses used in studies on people who are HIV-positive were 1,800 to 2,000 mg per day in three doses of 600 mg or four doses of 500 mg. As an amino acid it is much better to take it on an empty stomach with either water or fruit juice (the sugar in the juice enhances absorption). One commonly read HIV treatment book states to take it with food, but that is completely wrong! Other foods will compete with the uptake of cysteine and you will be wasting your money. (This is an example of why it is important to have a knowledgeable person in charge of your nutrition.)

In summary, 1,800-2,000 mg of either form of cysteine on an empty stomach per day will benefit your immune system and suppress viral activity. In my protocols, it is one of the "star performers." +

*Dr. Brian A. Smith, a chiropractic doctor in private practice, has specialized in treating immune-suppressed individuals for more than eight years. He teaches in the HIV Nurse Clinician Program at USC School of Medicine and is a board member of AIDS RESEARCH Alliance. Readers with questions or suggestions for articles may call him at (213) 656-2652.*

# ***Resolute!***

*Dedicated To Surviving HIV/AIDS*

Newsletter of the People With AIDS Coalition Colorado • June 1995

## **Chiropractic Care May Improve Immune Function**

BY BRIAN A. SMITH, DC

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*See Chiropractic on page 13*

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*(Dr. Brian A. Smith is a chiropractic*


*doctor who has specialized in the treatment of immune-suppressed individuals for more than eight years and is a board member of AIDS ReSEARCH Alliance. He can be reached at 213.656.2652. He welcomes questions from readers and suggestions for articles. Reprinted from the April 1995 edition of AIDS Project Los Angeles' Positive Living. )*

## Local Chiropractors

There are several chiropractors in the Denver metro area that treat people living with HIV/AIDS. We list three that we know have HIV clients. It should not be considered a recommendation or a complete list.

The Caring Center of The Denver Nursing Project in Human Caring has a volunteer chiropractor named Stephanie. She is available Thursdays from 3-6 pm for 30-minute appointments. Call 303.393.4616.

Dr. Robert Ebeling has just opened an office at 2614 E. 13th Ave. His office hours are Monday, Wednesday, and Friday from 9am to 7pm. Call 303.377.1755.

Dr. Paul K. Bolton is part of the Apex Primary Care office, combining medical, dental, counseling, and chiropractic care in one office. Call 303.321.0222. 



**A**s nutrition and nutritional supplementation becomes more widely accepted in the management of HIV, I can not help but wonder: "Why has it taken so long?"

Every known illness has a nutritional aspect which is usually considered when making treatment recommendations. In the L.A. area there has been at least one nutritional center focusing on the immune system since 1980. Still, I would venture that fewer than 50 percent of HIV-impacted individuals are on any type of aggressive nutritional intervention.

Why is this?

### Excuses, excuses

I hear plenty of "reasons" for neglecting the role of nutrition in managing HIV.

> *"My medical doctor doesn't think it's important."* Well, nutritional therapeutics is not their field! You wouldn't ask your medical doctor to fix your car and you shouldn't ask them about nutrition, either. They are trained in the use of drugs—use them for their expertise for that.

> *"There is no research to prove that nutritional intervention is effective."* There has been plenty of research that proves the necessity of proper nutrition in the role of good immune function. In the early years, the research may not have been HIV-specific—but then again, no research was HIV-specific in the early years! Currently, there exists plenty of research about the peculiarities of nutrition as it relates to HIV infection.

> *"I tried it, but I didn't feel different."* Great! Did you want to feel worse? If you are in good health, the role of proper nutritional intervention is to maintain that state. If you are in poor health, you should feel better. If you don't, there is something missing in your program.

### The importance of intervention

We know that people who lose lean body mass—i.e., muscle and organs—have lowered resistance to infections and a decreased immune response.

We also know that the body uses certain minerals and vitamins in amounts that far exceed those used by an HIV-negative person. We also know that certain supplements will increase the effectiveness of the immune system while others will interfere with the virus.

Remember that the illness is caused by a breakdown of the normal immune response, not by a lack of AZT, ddI, ddC or the drug of your choice. This breakdown is tied to a lack of normal body chemicals or a change in the normal biochemical pathways. We know that the virus alters the "energy" path-



NUTRITION WATCH

# Why consult amateurs?

By BRIAN SMITH, D.C.

ways in the body so that protein is lost in greater amounts, while fat is saved in greater amounts.

### Three basic questions

So many people are "doing" nutrition, it is easy to become confused. The following three questions alone will eliminate more than 80 percent of practitioners who are "doing" nutrition but lack the scientific knowledge to establish a proper nutrition program:

> **Do they measure your lean body mass?** If not, you have to ask yourself: "How do they know what I need if they don't know where I'm at to begin with?"

> **Before recommending supplements, do they consult your laboratory work?**

Your lab work provides more information that is crucial to the development of a proper nutrition program than any

other single piece of information about you. Many "professionals" neglect the importance of lab work in favor of many other highly questionable methods to establish what supplements you need. Why not just determine them from lab work?

Lab tests are highly accurate and give a very nice way to compare your results before and after a treatment or therapy. How are your endocrine glands working? A review of your lab work would tell me immediately.

> **What is their review procedure?** Three months from now you will be a different person with different nutritional needs. Accordingly, your program must vary with these changes.

### A lifelong commitment

It is important to understand that nutritional therapeutics affect the body—as opposed to the virus—to a greater extent. Because of this, nutritional therapeutics should be considered to be a lifetime endeavor.

The days of "eat right, drink plenty of water and take a multivitamin" are long over. Members of the HIV-impacted community must wake up and realize the impact nutrition has on their health.

Get professional counseling—and for your sake and safety, ask those three questions. +

*Dr. Brian A. Smith is a chiropractic doctor in private practice who has specialized in the treatment of immune-suppressed individuals for more than eight years. Dr. Smith teaches in the HIV Nurse Clinician Program at USC School of Medicine and is a board member of AIDS ReSEARCH Alliance and the Nutrition Task Force at AIDS Project Los Angeles. He welcomes questions from readers and suggestions for articles. Call him at (213) 656-2652.*

# A properly functioning liver is critical for good health

By **DR. BRIAN A. SMITH, D.C.**

**W**hen it comes to lab work, the liver is probably the most talked about organ. How high are your liver enzymes this time? Will you be able to stay on steroid therapy if they go any higher? Just what do liver enzymes mean?

## The basics

First, a short course in the liver: what is it and what does it do.

The liver is a large organ located just under the lower rib cage on the right side. It has the greatest number and most varied functions of any organ of the body. Your doctor can feel it if they dig their fingers up under your ribcage. It may be tender if it is inflamed.

The liver has three basic functions. First, it stores and filters about 1,400 ml. of blood each minute. The majority of this blood comes directly from the intestinal tract where it has picked up many bacteria. These are cleansed by phagocytic immune cells. Poisons in the blood system from drugs, food or other parts of the body, are also cleaned out.

Second, the liver makes bile which is collected in the gall bladder and released into the intestinal track in response to fat in the diet. This helps us to absorb the fat in our food, including the fat-soluble vitamins A, D, E and K. The bile is also one way the body gets rid of unwanted compounds, such as bilirubin, a breakdown product of old red blood cells.

Your blood work will usually have a bilirubin measurement on it. It may even break it down into subcategories of conjugated and unconjugated. If elevated, these subcategories help your health-care provider determine the location of the problem.

The third function of the liver is in the metabolism of the foods we eat. The majority of the food you eat, which includes vitamins and minerals, travels straight to the liver to be metabolized.

Carbohydrates, sugar and starches, are reconfigured in the liver to be stored as glycogen. This is an "energy bank" of the body. The liver will release sugar into the blood as needed. Fats, too, are reconfigured in the liver. One product, triglycerides, are routinely measured. It makes cholesterol, of which 80 percent is converted into bile.

An interesting note is that the majority

of the cholesterol in the body is from your liver, *not* from your diet. If your liver function is good, then your cholesterol level will be good, too. Fat is a concentrated energy source, delivering twice the amount of energy per gram as carbohydrate or protein.

Speaking of protein, the liver also changes your proteins around from those that you have to those that you need. This interconversion of the amino acids is one of the most important liver functions. The

## NUTRITION WATCH

plasma proteins albumin and globulin are also routinely measured. For vitamins and minerals, the liver acts as a storage depot for vitamin B-12, A, D, E and K. The greatest portion of your iron is stored in the liver as ferritin. Copper, vitamin C and the other members of the B-complex are also stored there. The liver also converts beta-carotene into vitamin A, and vitamins K and D into their active forms.

## What about enzymes?

So far, your lab work can tell us about the function of your liver through levels of albumin, globulin, cholesterol, triglycerides and ferritin, but what about those "liver enzymes" you hear so much about?

The two most famous liver enzymes are SGOT and SGPT, also known as AST and ALT. These enzymes, found in liver cells among others, help to convert one amino acid into another. When the liver cells rupture, these enzymes pour into the blood and the levels elevate. Another important enzyme is GGT which has a similar function. These three enzymes are the most commonly measured ones to help determine what shape your liver is in.

A liver that stops working correctly can wreak havoc on your body. Your ability to make proteins, hence muscle, is diminished and you may experience loss of lean body mass. Likewise, your energy levels may sag. The ability to clean your blood decreases and your immune system suffers.

What makes it stop working? Too many drugs cause the liver to be "overworked" in trying to clean them out and the cells can start to rupture. This is probably the most common cause of liver malfunction in the HIV patient.

We all know that alcohol will destroy

your liver and may result in cirrhosis. Infections of the liver are called hepatitis and can result in permanent damage to the liver. Megadoses of vitamin A may cause liver failure. With all the drug insult to the liver, supplementing with vitamin A should be done *only* under the supervision of a health-care provider skilled in nutrition who is able to order and read your blood work.

Some medical doctors in the HIV field like to blame elevated liver enzymes on beta carotene, and ignore the effects of the drugs they prescribe. They are wrong. Large amounts of beta carotene *will not* be a stress on your liver. In fact, beta carotene is one of the main ways to treat a malfunctioning liver. As I have said before, most medical doctors are not knowledgeable about nutrition.

## Preventing problems

What to do if your liver is causing problems or you just want to prevent problems?

First, adequate dietary protein is a must. Your body will use more protein than usual in making the millions of new T4 cells each day plus all the antibodies, interferons, globulins, etc. that are necessary for your body to fight the infection. Also the virus makes it easier for the body to "burn" protein for energy, rather than burning fat, so you will lose some there, too.

Second, avoid alcohol, especially if your enzymes are already elevated. In fact, avoid anything that has to be cleaned out by the liver, including caffeine and nicotine.

Third, review all your medications to make sure you are taking only those that are necessary. With so many medications prescribed, it is easy to continue to take one or two that were only meant to be taken for a short time.

## Aid from supplements

Use of supplements may help your liver. Vitamin C has been shown to be very helpful in cases of liver inflammation. Beta carotene, as mentioned before, helps to repair the damaged cells. Some substances, called "lipotrophics" (or "fat-loving") help to mobilize fat from a liver that is fat congested. Use of liver glandular may be beneficial as well. Herbs that have shown to be beneficial include silymarin (milk thistle) and yakitron. Amounts vary depending on your particular health status and your weight.

As a chiropractor, when I analyze the

► 7



From Page 6

spine, I usually find a problem in the area just below the tips of the shoulder blades, which is where the nerve to the liver comes from. Keeping this vertebra moving freely helps to eliminate any problems from the nervous system.

Our organs do not operate independently. Liver problems may be just a signpost leading us to other problems in the body. The American diet tends to be too high in carbohydrates. When you eat carbohydrates the pancreas secretes insulin. In the liver, this insulin causes the formation of fat from excess carbohydrate. Similarly, any stress (and infection is a stress) causes our adrenal glands to secrete cortisol. This cortisol will cause the liver to start changing amino acids into glucose which will ultimately end up as stored fat. There are innumerable ways in which our liver is affected by the foods we eat, the stressors in our life, the drugs we take and our "lifestyle" of cigarettes and alcohol.

A properly working liver is imperative. As you can see, it is not a matter of what vitamin, mineral, herb or drug you take to make it all better. It takes the skill and expertise of someone who is knowledgeable and capable of diagnosing your situation as well as your decision to reduce or eliminate as many of those things that are damaging to your liver as possible. +

*Dr. Brian A. Smith, a chiropractic doctor in private practice who has specialized in the treatment of immune-suppressed individuals for more than eight years, teaches in the HIV Nurse Clinician Program at USC School of Medicine and is a board member of AIDS ReSEARCH Alliance and the APLA Nutrition Task Force. He can be reached at (213) 656-2652.*

**N**AC (N-acetyl-cysteine) has been in the news a lot since the publication of research in the *Proceedings of the National Academy of Sciences*, on March 4, 1997. That research demonstrated beyond a doubt

blood and 60% in lung tissue in HIV+ persons. In early 1991, Dr. Alton Meister of Cornell University Medical College reported the spread of HIV to be reduced up to 90% using NAC. Since that time numerous studies have been

glutathione levels by a complicated mechanism involving producing a chemical, called TAT, that interferes with two enzymes necessary for glutathione function.

Cysteine is available in two forms: L-cysteine and N-acetyl-cysteine. In my practice I have utilized both forms. In

## NAC In the News, Again!

that oral use of NAC is associated with significantly greater survival for people with HIV.

Many people use NAC without understanding why to take, how much to take or when to take it. First, what is it? Cysteine is an amino acid found throughout the body and is used for a variety of reasons. It has been found to be consistently depressed in people who are HIV+. It is one of the three amino acids making up glutathione, a molecule important in immune function and also found to be severely deficient in people with HIV. Cysteine is required for the transport of other amino acids into cells so that chemicals such as interferons and antibodies can be made.

NAC stimulated interest as a possible treatment over 8 years ago. It is known that supplementation with NAC will cause glutathione levels to increase and that glutathione levels are decreased by an average of 30% in the

conducted and the results are promising for NAC. When used in combination with Interleukin-2 (IL-2), it resulted in markedly enhanced immune cell proliferation and function. One study demonstrated a significant T4 cell increase using NAC. Another demonstrated that HIV replicates more easily when glutathione levels are low and that NAC replenishes glutathione levels. Low cysteine levels also appear to correlate with elevated TNF (tumor necrosis factor) and B-2-M (beta-2-microglobulin) levels, both of which signify an increase in viral activity.

There are multiple reasons why glutathione levels are lower in HIV+ people. First, inflammatory cytokines are chemicals produced in response to HIV infection. These chemicals deplete glutathione by reacting with it. Second, alcohol will lower glutathione levels. Third, many drugs, most commonly acetaminophen (Tylenol), deplete glutathione. Fourth, HIV itself may lower

patients that are not on any antiviral, I use NAC. L-cysteine is beneficial in cases of sinusitis, lung congestion and other upper respiratory infections or inflammations. NAC has the same effect on mucus, but is more costly. To date, no research has been done evaluating the immune effects of L-cysteine. Knowing that the beneficial immune effects of NAC are due to the increased cysteine levels, there appears no reason why L-cysteine could not be used in place of NAC.

The doses used in most studies of people with HIV were 1800 to 2000 mg per day in 3 doses of 600 mg or 4 doses of 500 mg. However, the most recent study used doses ranging from 3200 to 8000 mg per day, though the authors of that study do not give a reason for the use of these higher doses. As an amino acid, it is much better to take it on an empty stomach with either water or fruit juice (the sugar in the juice enhances absorption). One commonly read HIV treatment book says to take it with food but that is completely wrong! Other foods, mainly other proteins, will compete with the uptake of cysteine and you will be wasting your money. The culprits in the food are two other amino acids, taurine and methionine, which will decrease the absorption of cysteine. (This is one good example why you must be sure to have a knowledgeable person in charge of your nutrition.)

To summarize: 1800-2000 mg of cysteine (either form) on an empty stomach per day will benefit your immune system and suppress viral activity. Occasionally a person will complain of mild stomach distress from taking this supplement without food. In this case, I recommend the person eat something light that has little or no protein, such as a bowl of cereal or oatmeal, pasta, or some fruit.

*Dr. Brian A. Smith is a chiropractic doctor who has specialized in the treatment of immune-suppressed individuals for more than ten years and maintains a private practice in West Hollywood. He can be reached at 213.656.2652.* ▼

B R I A N A . S M I T H , D . C .

# Why not volunteer AND have fun?

Let me get this right: If I care enough about my physical health to go to the gym on a regular basis and if I enjoy dancing then I must be "in selfish pursuit of sex, drugs, dancing, whatever." That is the world according to Joe Monroe (Letters, June 1998).

Fortunately, for the world, his opinion is unfounded, biased, reeks of discrimination and is flat-out wrong. His errant assumption is "Big Buffed Boys do not volunteer while others do." Wrong on both counts. Do these people volunteer? I can only speak for my acquaintances and myself. I have volunteered a minimum of 10 hours per week since 1987. I helped to set up the Center for Living, I ran and participated in hospital volunteer programs at Midway and Sherman Oaks, I helped to found AIDS Project Los Angeles' nutrition department, and the list goes on and on. My friends likewise have all volunteered to various degrees, from hosting or coordinating fund-raisers to being APLA buddies to countless other ways. Who do you think buys those expensive tickets for all those benefits?

As to "true self-satisfaction," I can only offer the following insights: I do not volunteer to become "self-satisfied" as that undermines the whole premise of volunteering. I volunteer to provide assistance where needed. "True self-satisfaction" comes to me through celebrating who I am and celebrating with like-minded people. In my case, that is through the mediums of dance and music. My preference for circuit events is my choice.

Get your facts straight Joe, dancing once or twice a week is not "doing the circuit" and there exists only one magazine, *Circuit Noize*, dedicated to keeping the reader informed of circuit events. It also provides much needed information regarding the problem of drug abuse, discussing safer sex and similar topics.

Opinions such as Mr. Monroe's only serve to alienate the very people he wishes to reach. Look around you, Joe. We're already there, fighting in the trenches, and probably have been for much longer than you would care to believe. +

—BRIAN A. SMITH, Los Angeles

**I HAVE NOTICED A BEWILDERING AND DANGEROUS TREND**

among my acquaintances. This is the unfounded belief that pain is something to be treated with painkillers—prescription or over-the-counter. This belief is fostered by the pharmaceutical industry, supported by the medical profession (sometimes actively, sometimes passively), and demanded by the public: "Give me something for this headache!" Pain is not a disease; it is a warning that something is wrong. Treatment aimed at shutting off the alarm is dangerous, similar to the danger created when smoke detectors are shut off.

Pain is not caused by a lack of aspirin, acetaminophen (Tylenol), ibuprofen, or naproxen in the body. How often do you reach for that bottle of drugs when you have a headache? Lower back pain, arthritis, toothaches, or any of the other 101 times that you are sore or in pain has never been caused by an absence of pain-killing drugs in the body.

What's the harm in taking these drugs, you ask? A single dose of aspirin—simple, plain old aspirin—is associated with a 1-in-20,000 chance of a ruptured blood vessel in the brain, which is called a hemorrhagic stroke. How many people have ever heard of that fact? How about that a chiropractic adjustment to the neck can cause a stroke? It seems that everyone knows of someone or has heard of someone who has suffered that fate. Guess what? A chiropractic adjustment to the neck, given by the only professional qualified to do so, a chiropractic doctor, carries with it a 1-in-4 million risk of causing a stroke! Now 1-in-20,000 doesn't sound so great, does it?

In 1997, I did a survey of research literature. At that time, there had only been a total of 56 people on this planet that were known to have suffered a stroke immediately following a mobilization procedure to the neck. Well then, who did these procedures? Medical doctors account for the majority: 45 out of 56! The next largest group fell into the category of massage therapists: eight out of 56, followed by two mobilizations performed by persons of unknown qualifications and, lastly, one episode in which a stroke followed a chiropractic adjustment administered by a chiropractic doctor!

If pain is never the result of an absence of a pain-killing drug, what is it? It is the way your brain tells you that something is wrong. What do painkillers do? They block that news from getting through to our consciousness. And? Whatever causes your pain is allowed to continue. The cause of your pain continues to do whatever damage it is doing. You may no longer feel that nail in the bottom of your foot, but guess what? Taking two Tylenol did not remove the nail!

Several years ago a drug company placed a television ad that went something like this:

*Bothered by painful knees caused by arthritis? Take our wonderful drug and it will stop the pain so you can go on living (the same) life.*

What this company was saying was that, as long as you did not feel the pain, it was fine to continue living in the exact same way that was destroying your knee joints because you could no longer feel the results of the damage you were causing! Just keep doing whatever it is you were doing and you'll be fine; that is until your knees are so damaged that you live the rest of your life in a wheelchair!

How about this approach: The next time you have pain, anywhere, any kind—before swallowing some painkillers ask yourself this question: What is the source of my pain? A nail in the bottom of your foot? Take it out and then take some painkillers! Removing the nail alone will not immediately stop the pain, but since you have addressed the cause of the pain by removing the nail, the need for painkillers will be limited to one time, maybe two. Sore neck and shoulders after hours at the computer? Alter some aspect of that process: lower your seat; raise the keyboard; get a better chair; put the computer screen at the correct height so you don't have to bend or twist your neck, no matter how slight; put on your reading glasses so you don't lean forward to make out the letters or squint your eyes giving you a headache. How about this—don't spend uninterrupted hours in front of the computer (your body was designed to be active, not passive, so get up for frequent walk breaks).

What if you can't identify the source of the pain? Don't grab for that bottle yet! I had a patient come in with upper mid-back pain and pain on the top of her right shoulder. After examining her and treating her with a reflex therapy system, I told her she had gallstones. She relayed a 20-year history of "gallblad-

# The Pain Myth

YOUR BODY IS TRYING TO TELL YOU SOMETHING,  
AND PAINKILLERS DON'T HAVE ALL THE ANSWERS

BY BRIAN SMITH, D.C.

der attacks" (sounds like a bad 1950s Japanese monster movie to me) and then stated that every single diagnostic test done showed she had no gallstones. I was not impressed. She had them, period. In fact, she was so perfectly typical of a person with gallstones, her picture should appear in every medical dictionary under the entry for gallstones. Why did I diagnose gallstones? Well, besides the fact that she was one of the very few times a "textbook case" walked in to my office, the nerves to the gallbladder originate in the upper mid-back. And you know how a heart attack can radiate pain down the left arm? This is called a referred pain pattern, and most internal organs have one. The gallbladder is no exception—it refers to the top of the right shoulder. Besides, the reflex points I used would never "clear" or go away, they often got more sensitive the longer I held the points, indicative of tissue pathology.

A couple of months went by during which time she obtained gratifying, though limited, pain relief from treatment received in my office. I even obtained copies of the diagnostic studies and agreed with every other health care provider—I couldn't see any evidence of gallstones either, but I knew they were there.

After my continued goading and another gallbladder attack, she underwent the knife—finally someone said, "Let's take a look." And they found an infected, enlarged gallbladder with 72 stones! Why didn't it show up in the diagnostic studies? Did I mention that, cut open, it was approximately the size of a football? (And really ugly, I saw the Polaroid—yuck!) It did show up on the studies... It covered half of the abdomen! It was so engorged that everyone, including me, had missed it on the x-ray film.

After it was removed she came in one more time for treatment of the upper back and right shoulder pain and after that, it never returned. Too bad she hadn't come to me 20 years earlier; she wouldn't have ever had the gallstones in the first place. And all because she grew tired of taking painkillers for her upper back pain!

Or take the case of my former mail carrier's husband who had stomach pain, sometimes intense, for eight months? He obtained medical treatment repeatedly, yet the pain worsened. He changed the diet (no spicy food); took a drug for stomach cramps; took a stronger painkiller like Valium... then, in tears, my mail carrier tells me it turned out to be stomach cancer and her 38-year-old husband is dead.

Remember—pain is always a warning that something is wrong, somewhere! Pain does not happen without a reason, ever. Find out the cause of the pain and treat it properly. Treatment may include the limited use of painkillers, but they should never be the only way that you treat a recurring pain.

**Brian A. Smith, D.C.** is a chiropractic doctor specializing in internal disorders. He maintains a private practice in West Hollywood and can be reached at 323/656-2652 or online at <http://home.earthlink.net/~doctorsmith>.





# RED RIBBON TIMES

2018 Volume 1



A Hope for Health Care



Our Health Matters, But Does Matter



## Latinx (la-TEEN-ex) – a primer in neologisms.

by Dr. Brian A. Smith

**Latin@:** Was originally a gender-neutral designation for males, females, and non-binary identified persons. It has become more-closely identified with the transgender Latin-American or Hispano-American community.

**Lantinx:** Is an outgrowth of a gender-neutral social media phenomenon that started a few years ago. The 'x' is a variable, standing for male, female, and non-binary individuals. It encompasses all races: Europeans and Middle Easterners or 'white,' Africans or 'black,' Asians and Amerindians (Native Americans). Latinx is growing in popularity at the same time that Mx (mikk) is replacing Mr (mister), Mrs (missus), Miss (young girl), Ms (female), and the little-used

(but I'm old enough to remember) Mstr (master, young boy) in the United Kingdom and parts of Europe as a gender-neutral title.

**Latino/latina:** Is a male/female living in the United States (or North America) with origins in Latin-America. Latin-America encompasses between 19 and 22 countries (depending on your source) in the Caribbean and between the northern border of Mexico and the Southern tip of South America.

**Hispanic:** The definition depends on the government agency involved. The US Census Bureau defines Hispanic as a person living in the U.S. (or North America) with origins in Spain or Spanish-speaking Latin-American countries. The US Small Business Association expands on the above to include Portugal and Brazil.

**Just like "all thumbs are fingers, but not all fingers are thumbs"** (thanks Zack, BBT), all Latinx are Hispanic, but not all Hispanics are Latinx (at the SBA at least). The above terms are part of a person's

ethnicity which are the cultural factors affecting a person's life. These factors include your country-of-origin (nationality), your ancestor's country-or-origin, the local culture you were raised in and your primary language. There is a regional preference within the United States with Hispanic used more in the East and Latino/a used in the West. A person's race refers to physical characteristics such as bone structure and skin, hair, or eye color. This is an artificial (i.e. man-made) social construct without scientific foundation. A discussion of race is beyond the scope of this article but, to put it simply, race can be considered a broad categorization that varies widely from place to place. In general, it can be said that 'race' includes:

- Caucasian (which includes European, Middle Eastern and sometimes North African),
- African (which usually means Sub-Saharan but can include North African),
- Asian, and Amerindian (Native American).

*Some of the above material comes from the Southeastern AIDS Education and Training Center, 2016.*

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# Condom Safety

By DR. BRIAN A. SMITH (RET)

**Dr. Brian A. Smith (retired) was The seizure of more than 40,000 “knock-off” condoms in Puerto Rico this past March, many destined for Central Florida, has raised safety concerns.** HCompanies in China have been mislabeling substandard condoms under several well-known brand names as well as “no-name” condoms and selling them at greatly discounted prices around the world. These condoms routinely fall below the government standards set for acceptable “fail rates” which is a measure of how likely it is that any particular condom will burst while in use. More than 4 million condoms were seized before being exported from China but many more made it out of that country before the raids by government agencies. While the effects on Central Florida are not known at this time, what could have been a huge public health disaster has appeared to have been mostly averted. Still, consumers should be prudent in their selection process. When making a purchase, take a good look at the package — if anything seems “off” or if they are being sold at a “really great price” — you may want to exercise a bit of caution. Which brings me to the next topic — types of condoms. There are two broad categories of condoms — prophylactic condoms and novelty condoms. Prophylactic condoms are designed to prevent pregnancy and reduce transmission of STDs and HIV. Novelty condoms are not. So, how do you know what type of condom you have? It’s not always easy to tell; some prophylactic condoms have the same characteristics as novelty condoms.



The most common type of novelty condoms are flavored condoms — but not all flavored condoms are novelty condoms, some are also prophylactic. Novelty condoms are condoms that are not designed to be used for sex. They include joke condoms used for gag gifts (no pun intended) such as the “foot-long” condom. Sometimes people don’t realize that novelty condoms are just that — novelties. This lack of realization has the potential to make something that started out as a joke become dangerous. Most novelty condoms are labeled “Not for use for sex” but recent events have shown us that the mislabeling of condoms is far more widespread than previously thought. Cost is not a good gauge as novelty condoms may be more or less expensive than regular condoms. The price depends on what the novelty condoms are made of and how they are being marketed. In general, flavored condoms don’t cost more than other condoms however price is not a gauge for how safe it is. No novelty condom should be considered safe unless it explicitly states that the condom is safe for vaginal and anal intercourse on the package. Novelty condoms should not be used as protection during oral sex. Flavored condoms are available at many drugstores and sex shops, with many more options available online. Some businesses place novelty condoms in a different area of the store than where they shelve the condoms that can actually be used for safe sex; some businesses do not. You want to make certain the condoms are actually approved for use during sex. Novelty condoms are not always clearly marked but a little common sense will help determine if they are being sold strictly as a novelty item. What products are next to them? Lollipops and ice-cube trays shaped like sex organs? They’re probably novelty condoms.

Oral sex is the *raison-d’être* of flavored condoms. Before using a flavored condom for anything other than oral sex, read the packaging they came in. If the box says not to use the condoms for vaginal sex, you should avoid using them for anal sex as well.

Want safety to taste good too? Consider sticking to well known condom brands’ flavored varieties, and check the box; there should be a statement about their suitability for the prevention of disease transmission and pregnancy during any sex act. Remember — once a flavored condom is put on, the only other place it is meant to go is a place that has taste buds. The chemicals used to add flavor may act as an irritant in the vaginal and anal canal. Irritated mucous membranes are much less likely to repel microorganisms of all kinds. This is an important part of sexual health, and you should never give a novelty condom to someone without telling them that it is a novelty — just because you know the difference does not mean your friend does.

Have a healthy and fulfilling sex life without placing yourself and others in danger.

## MIRACLE OF LOVE TURKEY DROP

This is another day and another year we all have come this far by faith.

Miracle of Love is having another Thanksgiving Turkey Drop. Beginning Monday, September 25, 2017, through Monday, October 30, 2017, Miracle of Love will be accepting drop offs, please read notices that will be posted so no one will be left out. Thank you for your time and cooperation.

**Ira Darnell Westbrook**



## BRIAN SMITH'S RED RIBBON BIO



**Dr. Brian A. Smith (retired) was appointed to the Planning Council for the Orlando EMA in January 2016 after 30 years involvement in the HIV+ community in Los Angeles.**

He received his doctorate (chiropractic) in 1987, finished post-graduate studies to become a certified internist in 1996 and qualified as a naturopathic physician in 1999. His formal introduction to the HIV+ community began in 1984 with participation in a small support group run by the Reverend Louise Hay, which blossomed into the Hayride, a weekly support group with more than 700 people in attendance by 1987. Reverend Hay founded Hay House Publishing, which still publishes many inspiring works by and for PLWHA. He attended the first professional presentation by Robert Gallo, M.D., at UCLA. In 1988 he became the owner and director of "The Health Affair" on Sunset Boulevard at the border between Beverly Hills and West Hollywood, one of the first private practices to focus on HIV management. It was founded by Donald Dickenson, Ph.D. (Nutrition), and Garyx Zimmerman, D.C., in 1978. Dr. Dickenson authored the first book detailing the impact of nutrition on

the immune system with a focus on HIV. Published in 1984, *How to Fortify Your Immune System* provided some hope at a time when there were no treatments available — some readers may recall the days of AL-721, SPV-30, dextran sulfate, concentrated aloe vera extract and hydrogen peroxide-based therapies, and the p24 antigen/antibody tests and B2M levels, before testing for the virus was invented. Dr. Smith continued the practice until 2012 at which time several of the patients that predated his involvement with the practice were living very full lives. His successor continues with these same patients who were told in the earliest days their life-span could be numbered in months.

From this start Dr. Smith's involvement grew to include being a speaker, educator, researcher, writer and dedicated volunteer at many organizations including Being Alive, AIDS Project Los Angeles (APLA, founder Nutrition Task Force, 1990), Northern Lights Alternatives, the Los Angeles Center for Living (1989), Pets Are Wonderful Support (PAWS-LA), the Computer AIDS Information Network (CAIN) and the Nutritional Products Buyer's Club (director, 1990). In 1990, he was appointed a Medical and Scientific Advisory Board Member of Search Alliance, the forerunner of AIDS ReSearch Alliance, one of the oldest research organizations dedicated to HIV and AIDS research in the country. He became a faculty member in the HIV Nurse Clinician program (Pacific AIDS Education & Training Center, funded by Ryan White Part E) at the University of Southern

California in 1990 which lasted until 2000; he developed and taught a post-graduate program for HIV care for OMDs (Oriental Medical Doctors, 1993) as well as teaching on the same subject for several continuing education programs for medical doctors including programs at Scripps Mercy Hospital (both in San Diego) and USC. He authored the first professional article outlining a projected research project to be published in peer-reviewed chiropractic research literature (*The Internist*, 1997) and, in the mid-1990s, was the Los Angeles-based clinical investigator on two nationwide studies on HIV. One was funded by the NIH, which investigated the use of complementary and alternative therapies, and the second studied the effects of growth-hormone preparations on HIV-infected persons with wasting syndrome. He was a commentator for Pacifica Radio-KPFK, covering the 6th International AIDS Conference in June 1990, and in 1991 and 1992 produced and directed the cable television show "Your Health, Naturally."

Since being appointed to the Planning Council, Dr. Smith has become the vice-chair of the membership committee and has represented the Council at several events including the "National HIV/AIDS Awareness Day" in September, the "I Am a Queen Bee" and the Orange County Employees Health Fair in February of this year. He also has represented the Council before several student organizations on the campuses of University of Central Florida and Valencia College, East.

DO YOU *ACTUALLY* HAVE HIGH BLOOD PRESSURE \_\_\_\_

OR DO YOU HAVE \_\_\_\_

***NOSOCOMIAL (DOCTOR-CAUSED) ELEVATED BLOOD PRESSURE?***

American Association of Family Physicians: NORMAL B/P is less than **140/90**  
American Heart Association: NORMAL B/P is less than **120/80**

Both the AAFP and the AHA stipulate that all readings must follow the correct, well-known, procedures, to obtain a reading that is accurate and valid. The list of incorrect procedures includes the following. Each will artificially elevate your blood pressure according to the latest published research:

<u>Activity or environment</u>	<u>mm HG increase</u>
Patient not in a quiet warm, environment <i>for 10 minutes</i> :	10-50
Full bladder	10-20
Legs crossed or dangling off table edge	2- 8
Caffeine <i>within 3 hours</i>	5-25
Cold room (to patient)	2-10
Talking during procedure:	0-10
Wrong size cuff:	2-10
Measurement taken through shirt sleeve:	10-20
Exercise <i>within 30 minutes</i> of reading (including climbing stairs)	<u>5-30</u>

***Cumulative increase possible 46- 183***

Obviously, the cumulative totals are not accurate as no one has ever been shown to have had their B/P artificially elevated by 183 mm HG. But they do illustrate rather effectively how a seemingly innocuous error can have a devastating impact. Your blood pressure is routinely taken through your shirt – that way there is consistency from one reading to the next. But there also is the likelihood that the reading is elevated 10-20 mm HG each time. Then the nurse asks you if you have any new medications or allergies to report and you reply in the negative – the added ~8 mm HG now pushed your already falsely elevated reading to 142/103 which requires a drug to lower your artificially elevated B/P not to below 140/90 but to below the 120/80 that the AHA endorses.



# Cholesterol & statins – the ugly truth

by Brian A. Smith, D.C.

Cholesterol manufactured by humans accounts for 90% of all cholesterol in the body. Dietary cholesterol accounts for a bit less than the remaining 10%, about 9%. Question: how much can you affect cholesterol levels by changing your diet?

Even if it was possible to eliminate every single cholesterol molecule from your diet (which is not possible), the maximum you could change, increase or decrease, you levels is by 10%. Given that full elimination is impossible, a realistically achievable reduction of dietary cholesterol is between 30 & 50%.  $30\% \text{ of } 9\% = 2.7\%$  and  $50\% \text{ of } 9\% = 4.5\%$ . There's your answer – you can reduce cholesterol levels by 2.7 to 4.5% maximum through diet manipulation.

Since we are talking 5.4 to 9 mg for a person with 200 mg cholesterol and accounting for the calculated lab values having a 90% accuracy, i.e. 200 means between 190 and 210, it is impossible to measure any change because the change of 9 mg is less than the built-in error factor. Therefore any change that appears is either (1) within the expected range, (2) due to increased or decreased production by the liver.

What increases production by the liver? When there are not adequate amino acids to maintain the structure of the cell and when does that happen? When you reduce the protein in your diet. Those sources are eggs, cheese, and meats.

*The very same things you are told to cut out of your diet are the very things you need to increase in your diet to allow your body to repair the cells.*

The wrong dietary advice guarantees that you can never repair the problem; instead you are prescribed a statin drug which further damages the liver cell and your cholesterol level only increases due to the damage. The typical medical response is to prescribe more drugs to remove the cholesterol.

There is *no attempt* made to correct the problem, just prescribe drugs that maintain the problem and allow it to slowly worsen, leading to your investment account dwindling, a lower quality of life, and death – and a new car for your doctor and a new house for the CEO of the pharmaceutical company.

*Live smart.*

**KIDNEY STONES** may be linked to consumption of cola beverages. Reported in the research journal Urology, it was found that consumption of 48 ounces of cola changed the body chemistry enough to promote kidney stone formation. There are several natural, non-toxic approaches to treating kidney stones that are effective. Pain over the sides or the lower ribs on the back may be a sign of kidney stones as is blood in the urine. If you have a family history of kidney stones you would be wise to avoid cola beverages as much as possible.

**WELLNESS CARE** is when you decide to take your own health into your own hands and start to *prevent* problems. It is when you are pro-active in your decisions to remain healthy at all times. People who are reactive wait until a problem surfaces before attending to it, people who are pro-active rarely have physical problems because they have prevented them from occurring. Pro-active people have fewer colds and flu, have greater energy and have a reduced risk of physical injury from exercise. Wellness care means having your lab work done *regularly*, having your chiropractic adjustments done *regularly*, paying attention to your diet and water intake *regularly*, taking your nutritional supplements *regularly*, and making sure all your physical, emotional and mental needs are provided for *regularly*. Are you ready to commit to being well this year? I certainly hope so, for your health!

**STILL WRITING:** As many of my patients know, I have an active interest in the history of chiropractic. Chiropractic History, the journal of the Association for the History of Chiropractic, published my biography of Carl Schultz, M.D., D.C. within the past year. Dr. Schultz was instrumental in the formation of the naturopathic profession on the West Coast and was a leader of the grassroots movement to license chiropractic doctors in this state.

I hope that your summer is a healthy and fun one.